# TUTOR PROFESSIONAL DEVELOPMENT HANDBOOK: B.Ed in Initial Teacher Education ICT Year 4

**HANDBOOK FOR COORDINATORS** 











**GOVERNMENT OF GHANA** 







# TUTOR PROFESSIONAL DEVELOPMENT HANDBOOK: B.Ed in Initial Teacher Education ICT Year 4

**Coordinator Version** 

# Foreword to the Year 4 Tutor Professional Development Handbook

The development of this set of Tutor Professional Development Handbooks, for Year 4 Bachelor of Education (B.Ed.) courses in Initial Teacher Education marks both an end and a beginning.

It marks an end in that this is the final set of Tutor Professional Development Handbooks to be written, bringing an end to three years of writing by teams from across the four mentoring Universities (Kwame Nkrumah University of Science and Technology, University for Development Studies, University of Ghana and University of Education, Winneba) and Colleges of Education.

It marks a beginning because the significant reforms in teacher education which these Handbooks are helping to bring about has only just begun. The first student teachers who have directly benefitted from these Handbooks entered Colleges of Education in 2019 and won't graduate until 2023. Once these B.Ed. graduates enter Ghana's basic school classrooms, I am confident that we will see a year-on-year increase in the number of teachers meeting the quality benchmarks set out in the National Teachers' Standards (NTS).

It is our intention and belief that these Handbooks will be used in Universities and Colleges of Education for many years to come and that they will play a central role in helping us to bring about a sustained transformation in our basic education system so that we achieve the goal of the Education Strategic Plan (2018-2030) that "all pupils are equipped with appropriate literacy, numeracy and social development skills to effectively transition to second cycle education."

I would like to take this opportunity to thank the Ghana Tertiary Education Commission, the UK's Foreign, Commonwealth and Development Office (FCDO) and Mastercard Foundation for their support over the past three years in making all this possible.

Robin Todd

Executive Director, T-TEL

June 2022

### **Year Four**

Writing the weekly PD sessions: Guidance for the Subject Writing Leads (SWL).

- ➤ It is critical that what SWL write provides direct subject and B.Ed. specific guidance, so SL/HoD can support and scaffold tutors learning and professional development. This requires direct reference to each course manual and explanations of any areas which may be challenging.
- The sessions need to provide the main PD opportunity for tutors to ensure they fully understand what they need to teach and have the opportunity to plan together to make sure the new B.Ed. courses are taught well.
- ➤ Developments since the manuals were written require SWL to *add additional detail to PD sessions*. Specifically, this means a focus on:
  - Integrating GESI to ensure the needs of females, males and students with special education needs are well catered for
  - Integrating ICT and 21c skills to ensure students learn to use technology effectively to support their own and pupils' learning
  - National Teacher Education Assessment Policy (NTEAP)
    - the three assessment components for the semester for each course: subject project (30%), subject portfolio (30%) and end of semester examination (40%). These need to be introduced in session 1. PD writers will need to provide an example subject portfolio and project assessment components. if these are not written into the course manuals, see Appendix 1: Course Assessment Components.
    - integrating the use of continuous assessment designed to support student teacher learning in each PD session
    - In year four there are two assessment components associated with the STS Portfolio course: the Professional Portfolio, this is presented with evidence of the Student Teacher meeting the NTS and assessed at a post internship seminar (viva), and the Action Research Project. Tutors need to be prepared for assessing these components.
- ➤ The PD session template provides the frame for SWL to write the guidance for the Subject Leads (SL)/HoDs on how to lead and support the professional development of tutors in the weekly sessions
- Age level specialisms. To ensure appropriate subject and age level focus for the PD sessions:
  - o there will be a subject specialist writing for each subject
  - where subjects are grouped direct reference needs to be made to examples of activities in the course manuals for each subject with explanations and guidance as required
  - where there are different age levels direct reference needs to be made to the course manuals for activities for each age level
- ➤ This is the student teachers' final year and involves planning for and teaching sequences of lessons next academic year across all required subjects with regard for: the basic school curriculum GESI responsiveness, cross-cutting and transferable skills, including ICT.
- PD sessions in all subjects will need to include preparation for this final push to beginning teaching
- SL/HoD need to have details of the resources needed for the activit

# **Tutor PD Session**

# Age Level: JHS Name of Subject/s:

1. Laboratory Management and PC Maintenance (LM & PCM)

Topic: Components of computer I

2. Legal and Security Issues in ICT (LSI)

Topic: Security fundamentals I

Year 4 Semester 2

# Tutor PD Session for Lesson 1 in the Course Manual

Focus: the bullet	Guidance notes on Leading	Guidance Notes on Tutor	Time in
points provide the	the session. What the	Activity during the PD	session
frame for what is	SL/HoDs will have to say	Session. What PD Session	
to be done in the	during each stage of the	participants (Tutors) will do	
session. The SWL	session	during each stage of the	
should use the		session.	
bullets to guide			
what they write			
for the SL/HoD			
and tutors to do			
and say during			
each session. Each			
bullet needs to be			
addressed and			
specific reference			
should be made			
to the course			
manual/s.			
1a Introduction to	1.1. Discuss with tutors the	1.1 Discuss of courses to be	20 mins
the semester – in	courses to be covered in	covered in the PD sessions	
session one	the PD sessions for the	for the semester.	
Overview of	semester.	i.e., Laboratory	
subject/s age	i.e., Laboratory	Management and PC	
level/s to be	Management and PC	maintenance (LM & PCM)	
covered in the	maintenance (LM & PCM)	as well as Legal and	
PD sessions	as well as Legal and	Security Issues in ICT (LSI).	
and guidance	Security Issues in ICT (LSI).		
on grouping			
tutors	<b>Note</b> : These PD manuals	<b>Note</b> : These PD manuals	
according to	are designed to equip	are designed to equip	
the subject/s,	tutors handling student	tutors handling student	
age level/s.	teachers offering the JHS	teachers offering the JHS	
Introduction	specialism in ICT with	specialism in ICT with	
to the course	requisite skills to;	requisite skills to;	
manual/s	enable them provide	enable them provide	
	understanding of the	understanding of the	

2

- Overview of course learning outcomes
- > Introduction to the two continuous assessment components to be undertaken in each subject during the semester (See Course Assessment Components **Appendix NB** in subjects where there are no assessment components in the course manuals examples will need to be provided by the SWL for the SL/HoD.

# 1b Introduction to the session

- Review prior learning
  Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators
- Overview of content and identification of any distinctive

- fundamentals of information security and to introduce student teachers to the management of computer laboratories.
- teach compatibility issues relating to hardware specifications that are required to run operating systems and various application programs to the student teachers.
- 1.2. Ask tutors to read the course description, the purpose of the course manuals and indicate how they are related to student teachers' relevant previous knowledge for whole group discussion.
- 1.3. Ask Tutors to write the course learning outcomes (CLOs) from the course manuals for discussion. E.g.,

# LSI

CLO1: Understand the principles of Information security concepts. (NTS 2b, 2c, 3b, 3c, 3d, 3e, 3h, 3i, 3k, 3n, 3p NTECF: Pillars 1, 2 & 3, crosscutting issues; Core skills, Assessment, Professional values and attitudes)

CLI 1: Explain Information security concepts.

# LM & PCM

CLO 1: Identify computer systems/subsystems and

- fundamentals of information security and to introduce student teachers to the management of computer laboratories.
- teach compatibility issues relating to hardware specifications that are required to run operating systems and various application programs to the student teachers.
- 1.2 Read the course description, the purpose of the course manuals and indicate how they are related to student teachers' relevant previous knowledge for whole group discussion.
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CLI 1: Explain Information security concepts.

# LM & PCM

CLO 1: Identify computer systems/subsystems and

aspects of the lesson/s,
NB The guidance for SL/HoD should identify, address and provide explanations for any areas where tutors might require clarification on an aspect of the lesson.

NB SL/HoD should

NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session discuss their functions and interactions.

CLI 1: Explain the functions of the various components of a computer.

1.4. In pairs, ask tutors to discuss the two assessment components for the lesson. (Subject portfolio and subject project).

# E.g. Subject Portfolio

Create e-portfolio to contain a preventive and corrective maintenance plan.

# **Subject Project**

I. Student teachers to install and configure operating systems and device drivers

NOTE: Revise with tutors the Course Assessment Components. That is:

Overall weighting of Subject project = 30%

Weighting of individual parts of project out of 100

- ☐ Introduction 10
- ☐ Methodology 20
- Substantive section 40
- ☐ Conclusion 30

Overall weighting of subject portfolio = 30%
Weighting of individual parts of portfolio out of 100 i(a). Each of the three (3) items selected by the student teacher is 30 % (90%).

discuss their functions and interactions

CLI 1: Explain the functions of the various components of a computer

1.4 In pairs, discuss the two assessment components for the lesson. (Subject portfolio and subject project).

# E.g. Subject Portfolio

Create e-portfolio to contain a preventive and corrective maintenance plan.

# **Subject Project**

I. Student teachers to install and configure operating systems and device drivers

i(b) Presentation and organisation of portfolio 10%.

OR

ii(a). Each of the two (2) items selected by the student teacher is 30 % (60%).
ii(b)Mid semester assessment 30% ii(c)Presentation and organisation of portfolio 10%

# Introduction to the lesson

1.5 Ask tutors to review the previous lessons learnt in Year 3 semester 2 PD sessions i.e., Technology Leadership and Management. E.g., IT Management Best Practices, and how they applied them in their teaching.

# 1.6 Ask tutors to:

i. Read the introductory sections of lesson 1 up to the learning outcomes and their corresponding indicators individually and then discuss in pairs (mixed pairs where applicable).

# E.g., **LM & PCM**

This lesson focuses on the characteristics of the computer system unit.
Student teachers will have an opportunity to examine the basic building blocks of the computer system unit.

# Introduction to the lesson

1.5 Review the previous lessons learnt in Year 3 semester 2 PD sessions i.e., Technology Leadership and Management. E.g., IT Management Best Practices, and how you applied them in your teaching.

# 1.6

i. Read the introductory sections of lesson 1 up to the learning outcomes and their corresponding indicators individually and then discuss in pairs (mixed pairs where applicable).

# E.g., **LM & PCM**

This lesson focuses on the characteristics of the computer system unit.
Student teachers will have an opportunity to examine the basic building blocks of the computer system unit.

L	. 71	

In this lesson, Student teachers will be introduced to security fundamentals I.

# **Distinctive Aspects**

- 1.7 Ask tutors to:
- i. Write down the distinctive aspects of the lessons from the course manual. e.g.,

### LM & PCM

Computer systems/subsystems.

### I SI

Information Security Principles

ii. Identify areas that need further clarification in the lesson. E.g.,

# LM & PCM

System Unit and CPU

# LSI

Confidentiality, Integrity and Availability
NB: Remind tutors to plan for their teaching as they go through the PD session.
E.g., using Tutor-led discussion, self-prepared videos or from YouTube video to aid the lesson.

As this course is dealing with supporting and/or assessing the Professional Teaching Portfolio Development and/or the Classroom Enquiry and Action

1.9 Ask tutors to
i. Brainstorm the
Professional Teaching
Portfolio (PTP)
Development and the
Action Research Project
Report writing.
e.g., Professional teaching
portfolio as evidence of
student teachers' progress

# LSI

In this lesson, Student teachers will be introduced to security fundamentals I.

# **Distinctive Aspects**

- 1.7
- i. Write down the distinctive aspects of the lessons from the course manual. e.g.,

# LM & PCM

Computer systems/subsystems.

## LSI

Information Security Principles

ii. Identify areas that need further clarification in the lesson. E.g.,

# LM & PCM

System Unit and CPU

# LSI

1.9.

Confidentiality, Integrity and Availability
NB: Plan for your teaching as you go through the PD session. E.g., using Tutor-led discussion, self-prepared videos or from YouTube video to aid the lesson.

i. Brainstorm theProfessional TeachingPortfolio (PTP)Development and theAction Research ProjectReport writing.

e.g., Professional teaching portfolio as evidence of student teachers' progress

Research Project Report writing, tutors should be provided with quidance on what to do including organisation of Post Internship Seminar.

towards being a teacher as a starting point for continuous professional development (CPD), including their Student Reflective Journal (SRJ) with evaluations of their teaching and target setting for personal and professional development

ii. Take a lead role and discuss with tutors the development of components of the PTP and Action Research report writing.

E.g.,

- a. Advising the student teachers to select the artefacts they have collected that are representative of knowledge gained or depicting something unique and start to develop their professional teaching portfolio.
- b. Guiding the student teacher on how to file the artefacts collected.

**Refer to STS Year Three School Placement** Handbook.

Table 8.2.7.2 pg. 117.

towards being a teacher as a starting point for continuous professional development (CPD), including their Student Reflective Journal (SRJ) with evaluations of their teaching and target setting for personal and professional development

ii. Discuss with your colleagues the development of components of the PTP and Action Research report writing.

E.g.,

- a. Advising the student teachers to select the artefacts they have collected that are representative of knowledge gained or depicting something unique and start to develop their professional teaching portfolio.
- b. Guiding the student teacher on how to file the artefacts collected. **Refer to STS Year Three School Placement**

Handbook. Table 8.2.7.2 pg. 117.

For each session remember this is the final semester before Students start teaching provide prompts to help support this transition for planning and give regard for GESI, CCI, ICT etc

1.10 Ask tutors to identify some ways by which student teachers can integrate ICT, GESI and CCI into their teaching and learning.

e.g.,

- a. Embedding videos into lessons
- b. Giving equal opportunities to both gender when teaching

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e.g.,

- a. Embedding videos into lessons
- b. Giving equal opportunities to both gender when teaching

	a Dramatina makisas	a Dramatina makis	
	c. Promoting problem	c. Promoting problem	
	solving skills like	solving skills like	
	troubleshooting a PC.	troubleshooting a PC	
2 Concept	Concept Development	Concept Development	15 mins
Development	2.1 Ask tutors to identify	2.1 Identify the concepts in	
(New learning	the concepts in lesson 1 of	lesson 1 of the course	
likely to arise in	the course manuals for	manuals for discussion. I.e.,	
lesson/s):	discussion. I.e.,		
Identification			
and discussion	LSI	LSI	
of new	Security fundamentals I	Security fundamentals I	
learning,			
potential	LM & PCM	LM & PCM	
barriers to	Components of computer I	Components of computer I	
learning for			
student	2.2 Ask tutors to write a	2.2 Write a possible barrier	
teachers or	possible barrier in learning	in learning the concept	
students, new	the concept above for	above for discussion.	
concepts or	discussion.		
pedagogy			
being	E.g.,	E.g.,	
introduced in	LSI	LSI	
the lesson,	Some student teachers	Some student teachers	
which need to	might not have had	might not have had	
be explored	knowledge and	knowledge and	
with the	understanding of	understanding of	
SL/HoD	Information Security in	Information Security in	
NB The guidance	Education and its impact on	Education and its impact on	
for SL/HoD should	teaching and learning.	teaching and learning.	
set out what they			
need to do to	LM & PCM	LM & PCM	
introduce and	Large class sizes in some	Large class sizes in some	
explain the	colleges	colleges	
issues/s with			
tutors	2.3 Ask tutors to identify	2.3 Identify appropriate	
	appropriate teaching	teaching strategies that can	
	strategies that can best	best explain the new	
	explain the new concepts	concepts identified.	
	identified.		
		E.g., Discovery learning:	
	E.g., Discovery learning:	Allowing students	
	Allowing students	maximum freedom within a	
	maximum freedom within a	resource-rich environment	
	resource-rich environment	to 'discover' answers to	
	to 'discover' answers to	challenges. It requires	
	challenges. It requires	students to build upon prior	
	students to build upon prior	knowledge and use	

		knowledge and use	resources available in the	
		resources available in the	environment to increase	
		environment to increase	their own knowledge.	
		their own knowledge.		
3.1	Planning for	Planning for teaching,	Planning for teaching,	
	aching, learning	learning and assessment	learning and assessment	
an	d assessment	activities	activities	
ac	tivities for the			
les	sson/s	3.1. In pairs, ask tutors to	3.1. In pairs, watch the	
>	Reading and	watch the YouTube videos	YouTube videos below on	
	discussion of	below on any internet	any internet enabled device	
	the teaching	enabled device available.	available.	
	and learning			
	activities	LSI – Information Security	LSI – Information Security	
>	Noting,	Principles	Principles	
	addressing,	https://www.youtube.com/	https://www.youtube.com/	
	and explaining	watch?v=6UEiQ9vUGWo	watch?v=6UEiQ9vUGWo	
	areas where			
	tutors may	LM &PCM – The system	LM &PCM – The system	
	require	board	board	
	clarification	https://youtu.be/dpf3BvZy	https://youtu.be/dpf3BvZy	
>	Noting	<u>VT0</u>	<u>VT0</u>	
	opportunities			
	for making		3.1.1 Discuss the content of	
	<i>explicit</i> links to	3.1.1 Ask tutors to discuss	the videos in relation to the	
	the Basic	the content of the videos in	teaching and learning	
	School	relation to the teaching and	activities in the course	
	Curriculum	learning activities in the	manuals.	
	Noting	course manuals.		
	opportunities			
	for integrating:	3.2 Ask Tutors to note areas	3.2 Note areas that require	
	GESI	that require clarification	clarification and/or	
	responsiveness	and/or contribution.	contribution.	
	and ICT and	E.g.,	E.g.,	
7	21st C skills	LSI The proceed consin	LSI The present consin	
	Reading,	The pros and cons in	The pros and cons in	
	discussion, and identification	information security principles	information security	
	of continuous	principles	principles	
	assessment	LM &PCM	LM &PCM	
	opportunities	Differences between	Differences between	
	in the lesson.	Processors and Memories	Processors and Memories	
	Each lesson	i rocessors una memories	Trocessors und Memories	
	should include	3.3. Ask tutors to discuss	3.3. Discuss how the	
	at least two	how the different activities	different activities would be	
	opportunities	would be carried out in	carried out in both CoE and	
	to use	both CoE and the Basic	the Basic School Curriculum	
	to use	DOUT COL ATIO LITE DASIC	the basic school curriculum	

continuous assessment to support student teacher learning

- > Resources:
- o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
- o guidance on any power point presentations , TLM or other resources which need to be developed to support learning
- Tutors should be expected to have a plan for the next lesson

School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 1.

E.g., **LSI** 

Student teachers explain Information security concepts.

# LM &PCM

Student teachers explain the functions of the various components of a computer

- 3.4. In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.
- E g., Equal representation of both gender of different ethnicity and mixed ability grouping as appropriate.
- 3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities.

E.g.,
Presentation of individual
reflective notes on analysis
of the videos with the links:

**LSI** - Information Security Fundamentals <u>https://youtu.be/bNhIfHhrk</u> lo (BSC) to achieve the LOs and the LIs of the course manual for lesson 1.

E.g.,

# LSI

Student teachers explain Information security concepts.

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- 3.5 Read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities.

E.g.,

Presentation of individual reflective notes on analysis of the videos with the links:

**LSI** - Information Security Fundamentals <a href="https://youtu.be/bNhlfHhr">https://youtu.be/bNhlfHhr</a> <a href="https://youtu.be/bNhlfHhr">klo</a>

# for student teachers

**LM &PCM** - Components of Computer System <u>https://youtu.be/A1LwJRYiaho</u>

# Note

Encourage tutors to ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work). Remind student teachers to use either concept maps, or multimedia for the presentations

3.6 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards), Videos

Make sure the resources are enough and appropriate for all learners (especially people with SEN).

3.7. Ask tutors to brainstorm a plan that will be appropriate for the next lesson:

# LSI

Security fundamental I

### LM &PCM

Computer Components I

LM &PCM - Components of Computer System <a href="https://youtu.be/A1LwJRYi">https://youtu.be/A1LwJRYi</a> aho

# Note

Ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work). Remind student teachers to use either concept maps, or multimedia for the presentations

3.6 List the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards), Videos

Make sure the resources are enough and appropriate for all learners (especially people with SEN).

3.7. Brainstorm a plan that will be appropriate for the next lesson:

# LSI

Security fundamental II

# LM &PCM

Computer Components II

4. Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
review of session:	session	session	
a. Tutors need to	4.1 Ask tutors to identify a	4.1 Identify a critical friend	
identify critical	critical friend to sit in their	to sit in your class during	
friends to observe	class during lesson and	lesson and report on	
lessons and report	report on observation	observation during the next	
at next session	during the next PD session.	PD session.	
b. Identifying and			
addressing any	4.2 Ask tutors to identify	4.2 Identify any outstanding	
outstanding issues	any outstanding issues	issues relating to lesson one	
relating to the	relating to lesson one from	from the course manual for	
lesson/s for	the course manual for	clarification	
clarification	clarification		
	4.3 Remind tutors to read	4.3 Read lesson 2 from the	
	lesson 2 from the PD	PD manual and find	
	manual and find relevant	relevant materials for the	
	materials for the next	next session.	
	session.		

# **Tutor PD Session**

Age Level: JHS

# NAME of Subject/s:

Semester 2

 Laboratory Management and PC Maintenance (LM & PCM)

Topic: Components of the computer II

Legal and Security Issues in ICT (LSI)

Topic: security fundamentals II

# Year 4

# Tutor PD Session for Lesson 2 in the Course Manual

Focus: the bullet	Guidance notes on Leading	Guidance Notes on Tutor	Time in
points provide the	the session. What the	Activity during the PD	session
frame for what is	SL/HoDs will have to say	Session. What PD Session	
to be done in the	during each stage of the	participants (Tutors) will do	
session. The SWL	session	during each stage of the	
should use the		session.	
bullets to guide			
what they write			
for the SL/HoD			
and tutors to do			
and say during			
each session. Each			
bullet needs to be			
addressed and			
specific reference			
should be made			
to the course			
manual/s.			
1 Introduction to	Introduction to the session	Introduction to the session	20 mins
the session	Start with an icebreaker	Start with an icebreaker	
Review prior	1.1 Using questioning,	1.1 Discuss the previous	
learning	engage tutors in a	lessons on systems boards,	
A critical friend	discussion on systems	processors and memory to	
to share	boards, processors and	recap knowledge	
findings for a	memory to recap	from previous PD Session	
short	knowledge	(Lesson 1) and state how	
discussion and	from previous PD Session	useful it was on the lesson	
lessons	(Lesson 1) and state how	taught.	
learned	useful it was on the lesson		
Reading and			
_	taught.		
discussion of the			
discussion of the introductory	1.2 Invite the critical friend	1.2 As a critical friend who	
discussion of the introductory sections of the	1.2 Invite the critical friend who observed Lesson 1 to	observed Lesson 1, share	
discussion of the introductory	1.2 Invite the critical friend		

learning outcomes and indicators

Overview of content and identification of any distinctive aspects of the lesson/s,

NB The guidance for SL/HoD should

identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan

for their teaching

as they go through the PD session the impacts on their facilitating in class.

1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 2 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

# **Distinctive Aspect**

1.4. Ask tutors to be in groups of two (where applicable) and identify the distinctive aspects of the lesson 2 from the course manuals for discussion.

# **LSI - Security Concepts**

- Vulnerabilities
- Threats
- Threat Actors
- > Exploits
- Risk

# LM & PCM - Components of computer II

- i. Disk Drives
- ii. Installation and Support of Hard Drivesiii. Installation and support
- iii. Installation and support of Power Supply units

As this course is dealing with supporting and/or assessing the Professional Teaching Portfolio Development and/or the Classroom Enquiry and Action Research Project Report

1.5 Ask and discuss with Tutors appropriate interventions that can be used to address identified learning needs of learners in the classroom.

# e.g.,

 i. Guiding the student teacher on how to write a report and include videos or pictures of interventions impact on your facilitating in class

1.3 Read the introduction, lesson description and the purpose of lesson 2 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

# **Distinctive Aspect**

1.4 In groups of two (where applicable) identify the distinctive aspects of the lesson 2 from the course manuals for discussion.

E.g.,

# **LSI - Security Concepts**

- Vulnerabilities
- Threats
- Threat Actors
- Exploits
- ➤ Risk

# LM & PCM - Components of computer II

- i. Disk Drives
- ii. Installation and Support of Hard Drives
- iii. Installation and support of Power Supply units
- 1.5 Discuss the appropriate interventions that can be used to address identified learning needs of learners in the classroom.

# e.g.,

 i. Guiding the student teacher on how to write a report and include videos or pictures of interventions

writing, tutors	they used to address the	they used to address the	
should be	learners' needs	learners' needs.	
provided with	ii. Task them to include the	ii. Task them to include the	
guidance on what	report in their portfolio.	report in their portfolio.	
to do including	report in their portjollo.	report in their portjolio.	
organisation of	Refer to Table 7.2.2b: of	Refer to Table 7.2.2b: of	
Post Internship	the STS placement hand	the STS placement hand	
Seminar.	book page 40:	book page 40:	
For each session	1.6. Ask tutors to be in pairs	1.6. In pairs identify ways	
remember this is	and identify ways by which	by which student teachers	
the final semester	student teachers can	can integrate ICT, GESI and	
before Students	integrate ICT, GESI and CCI	CCI into their teaching and	
begin teaching	into their teaching and	learning in the classroom.	
provide prompts	learning in the classroom.	icarring in the classroom.	
to help support	learning in the classroom.		
this transition for	e.g.,	e.g.,	
planning and give	a. Delegating roles to	a. Delegating roles to	
regard for GESI,	females and males equally.	females and males equally.	
CCI, ICT etc.	(NTS 1c)	(NTS 1c).	
	b. the use of PowerPoint	b. the use of PowerPoint	
	software to deliver lessons.	software to deliver lessons.	
	c. Promoting creativity like	c. Promoting creativity like	
	troubleshooting a PC.	troubleshooting a PC.	
2 Concept	Concept Development	Concept Development	15 mins
Development	2.1 Using brainstorming,	2.1 Using brainstorming,	
(New learning	ask tutors to write at least	write at least two major	
likely to arise in	two major concepts in the	concepts in the lesson from	
lesson/s):	lesson from the course	the course manuals and	
Identification	manuals and share with the	share with the whole group.	
and discussion	whole group. e.g.,	e.g.,	
of new			
learning,	LSI	LSI	
potential	Security fundamental II	Security fundamental II	
barriers to	Vulnerabilities	Vulnerabilities	
learning for	Threats	Threats	
student			
teachers or	LM & PCM - Components	LM & PCM - Components	
students, new	of computer II	of computer II	
concepts or			
pedagogy	i. Disk Drives	i. Disk Drives	
being	ii. Installation and Support	ii. Installation and Support	
introduced in	of Hard Drives	of Hard Drives	
the lesson,			
which need to	2.2 Ask tutors to discuss the	2.2 Discuss the potential	
be explored	potential misconceptions	misconceptions and	
with the	and barriers with respect to	barriers with respect to the	
SL/HoD	the concepts listed 2.1.	concepts listed in 2.1.	

ND The college	F .	F .	
NB The guidance	E.g.,	E.g.,	
for SL/HoD should	LSI	LSI	
set out what they	Some student teachers	Some student teachers	
need to do to	might not have had	might not have had	
introduce and	knowledge and	knowledge and	
explain the	understanding of Security	understanding of Security	
issues/s with	Concepts in Education and	Concepts in Education and	
tutors, they should	its impact on teaching and	its impact on teaching and	
take feedback to	learning	learning.	
gauge			
understanding and	LM & PCM	LM & PCM	
support tutor	Negative views of ICT and	Negative views of ICT and	
	_		
engagement.	large class sizes in some	large class sizes in some	
	colleges	colleges	
	2.3 Ask tutors to identify	2.3 Identify the most	
	the most appropriate	appropriate teaching	
	teaching strategies that can	strategies that can be	
	be employed to best	employed to best explain	
	explain the new concepts	the new concepts identified	
	identified	•	
	E.g.,	E.g.,	
	Discovery learning:	Discovery learning:	
	Allowing students	Allowing students	
	maximum freedom within a	maximum freedom within a	
	resource-rich environment	resource-rich environment	
	to 'discover' answers to	to 'discover' answers to	
	challenges. It requires	challenges. It requires	
	students to build upon prior	students to build upon prior	
	1	1	
	knowledge and use	knowledge and use	
	resources available in the	resources available in the	
	environment to increase	environment to increase	
	their own knowledge.	their own knowledge.	
3.Planning for	Planning for teaching,	Planning for teaching,	40 mins
teaching, learning	learning and assessment	learning and assessment	
and assessment	activities	activities	
activities for the	3.1. Ask Tutors to read	3.1. Read through the	
lesson/s	through the teaching and	teaching and learning	
Reading and	learning activities outlined	activities outlined in the	
discussion of	in the lesson from the	lesson from the course	
the teaching	course manual individually	manual individually for	
and learning	for group whole discussion.	whole group discussion.	
activities	E.g.,	E.g.,	
Noting,	LSI	LSI	
addressing, and			
explaining areas			
explaining areas	l .	l	l

- where tutors may require clarification
- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills
- Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning, subject specific examples should be provided for SL/HoD
- Resources:
  links to the
  existing PD
  Themes, for
  example,
  action
  research,
  questioning
  and to other
  external

Tutor shows a video of the types of hard drives and engages the student teachers in a discussion of the types of hard drives identified from the videos and/or images shown to them

3.2 Ask tutors to watch a video on:

### LSI

Vulnerabilities in ICT and under which circumstances recommendations can be made.

https://youtu.be/2VaPTIuRs 4k

# LM & PCM

How a Hard disk works using the link below <a href="https://youtu.be/wteUW2s">https://youtu.be/wteUW2s</a>
<a href="https://youtu.be/wteUW2s">L7bc</a>

- 3.2.1 Ask tutors to discuss their findings with the larger group
- 3.3 Ask Tutors to note areas that require clarification and/or contribution. *E.g.*,

# LSI

The difference between threats and vulnerabilities <a href="https://youtu.be/wKL5o4N">https://youtu.be/wKL5o4N</a> EWr4

# LM &PCM

Managing Hard drives as well as installing and managing of power supply units.

Tutor shows a video of the types of hard drives and engages the student teachers in a discussion of the types of hard drives identified from the videos and/or images shown to them

3.2 Watch a video on:

### LSI

Vulnerabilities in ICT and under which circumstances recommendations can be made <a href="https://youtu.be/2VaPTluRs">https://youtu.be/2VaPTluRs</a> 4k

# LM & PCM

How a hard disk works using the link <a href="https://youtu.be/wteUW2s">https://youtu.be/wteUW2s</a> <a href="https://youtu.be/wteUW2s">L7bc</a>

- 3.2.1 Discuss your findings with the larger group
- 3.3 Note areas that require clarification and/or contribution. E.g.,

# LSI

The difference between threats and vulnerabilities <a href="https://youtu.be/wKL504N">https://youtu.be/wKL504N</a>
<a href="https://youtu.be/wKL504N">EWr4</a>

# LM &PCM

Managing Hard drives as well as installing and managing power supply units

reference
material:
literature, on
web, Utube,
physical
resources,
power point;
how they
should be
used.
Consideration
needs to be
given to local
availability.

Tutors should be expected to have a plan for the next lesson for student teachers 3.4. Lead tutors to discuss in groups how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for the lesson. *E.g.*,

Tutor tasks student teachers to write reflective notes on the lesson treated.

3.5 Using think-pair- share, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.

E.g., Males and females taking turns in leading roles and Inclusivity.

3.6 Ask tutors to identify any 21<sup>st</sup> century skills that can be developed or applied in the lesson and how they can help student teachers to support basic school leaners to develop these skills.

E.g., The use of smartphones to prepare and present lessons.

3.7 Ask tutors to read and discuss the assessment activities in the manual and identify areas in the lesson that can be used for assessment in alignment with NTEAP related activities.

E.g., Explain the concepts of Component of computer II and security fundamentals

3.4. Discuss in groups how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for the lesson. *E.g.*,

Tutor tasks student teachers to write reflective notes on the lesson treated.

3.5 Using think-pair- share, discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed. E.g., Males and females taking turns in leading roles and Inclusivity.

3.6 identify any 21<sup>st</sup> century skills that can be developed or applied in the lesson and how they can help student teachers to support basic school leaners to develop these skills.

E.g., The use of smartphones to prepare and present lessons.

3.7 Read and discuss the assessment activities in the manual and identify areas in the lesson that can be used for assessment in alignment with NTEAP related activities.

E.g., Explain the concepts of Component of computer II and security fundamentals

	T	I	1
	NB: Remind tutors to focus	NB: Remember to focus on	
	on subject project and the	subject project and the	
	subject portfolio of the	subject portfolio of the	
	NTEAP document.	NTEAP document.	
	3.8 Ask tutors to list the	3.8 List the needed	
	needed inclusive resources	inclusive resources for the	
	for the teaching and	teaching and learning of the	
	learning of the concepts	concepts identified in both	
	identified in both CoE and	CoE and basic school	
	basic school classroom.	classroom.	
	E.g., a YouTube Video,	E.g., a YouTube Video,	
	Coursera, Khan Academy,	Coursera, Khan Academy,	
	Projector, Laptop (PC)	Projector, Laptop (PC)	
	3.9. Ask tutors to	3.9. Brainstorm a plan that	
	brainstorm a plan that will	will be appropriate for the	
	be appropriate for the next	next lesson:	
	lesson:		
	LSI	LSI	
	Security fundamentals II	Security fundamentals II	
	LM &PCM	LM &PCM	
	Components of the	Components of the	
	computer II	computer II	
	Remind Tutors to have a	Remember to have a	
	concrete plan for teaching	concrete plan for teaching	
	the next lesson for student	the next lesson to student	
	teachers	teachers	
4. Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
review of session:	session	session	
Tutors should			
Identifying	4.1. Individually, let tutors	4.1. Identify any	
critical friends	identify any outstanding	outstanding issues relating	
to observe	issues relating to the lesson	to the lesson for	
lessons and	for clarification	clarification.	
report at next			
session	4.2 Ask tutors to identify a	4.2 Identify a critical friend	
Identifying and	critical friend to sit in their	to sit in your class during	
addressing any	class during lesson and	lesson and report on	
outstanding	report on observation	observation during the next	
issues relating	during the next PD session	PD session	
to the lesson/s			
for clarification	4.3 Ask tutors to read	4.3 Read lesson 3 from the	
	lesson 3 from the PD	PD manual and find	
	manual and find relevant	1	1

materials for the next	relevant materials for the	
session.	next session.	

# **Tutor PD Session**

Age Levels: JHS

# Name of Subject/s:

 Laboratory Management and PC maintenance (LM & PCM)

**Topic:** Building/Upgrading a computer

2. Legal and Security Issues in ICT (LSI)

**Topic:** Access Control Fundamentals (introduction to Accountability process) I

Year 4 Semester 2

# Tutor PD Session for Lesson 3 in the Course Manual

Fo	cus: the bullet	Guidance notes on	Guidance Notes on Tutor	Time in
ро	ints provide the	Leading the session. What	Activity during the PD	session
	me for what is	the SL/HoDs will have to	Session. What PD Session	
to	be done in the	say during each stage of	participants (Tutors) will do	
ses	sion. The SWL	the session	during each stage of the	
sho	ould use the		session.	
bu	llets to guide			
	at they write			
	the SL/HoD			
an	d tutors to do			
an	d say during			
	ch session. Each			
bu	llet needs to be			
ad	dressed and			
spe	ecific reference			
sho	ould be made			
to	the course			
ma	ınual/s.			
1 l	ntroduction to	Introduction to the lesson	Introduction to the lesson	20 mins
the	e session	1.1 Using questioning, ask	1.1 Using questioning,	
>	Review prior	tutors to review and	review and reflect on the	
	learning	reflect on the previous PD	previous PD Session (Lesson	
	Reading and	Session (Lesson 2) and how	2) and how useful it was on	
	discussion of	useful it was on lessons	lessons taught. i.e.,	
	the	taught. i.e.,		
	introductory			
	sections of the	LM & PCM	LM & PCM	
	lesson up to	Components of computer	Components of computer II	
	and including	II .		
	learning			
	outcomes and	LSI	LSI	
	indicators	Security fundamental II	Security fundamental II	
	Overview of			
	content and			

identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson.

NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

- 1.2 Invite the critical friend who observed Lesson 2 to share their experiences and the impacts on their facilitating in class.
- 1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 4 in the course manual and indicate how they are related to student teachers' relevant previous knowledge *E.g.*,

# LM & PCM

This lesson is to expose student teachers to and help them understand disk drives and power supply units and be able to choose which ones are suitable for use in the school system.

### ısı

In this lesson, student teachers will examine the various security concepts in Information Technology

# **Distinctive Aspects**

1.4. Ask tutors to be in pairs andi. identify the distinctive aspects of the lesson. e.g.,

# LM & PCM

**Disk Drives** 

# LSI

Vulnerabilities ii. Identify areas that need further clarification in the lesson. E.g.,

- 1.2 As a critical friend who observed Lesson 2, share your experiences and the impact on your facilitating in class
- 1.3 Read the introduction, lesson description and the purpose of lesson 4 in the course manual and indicate how they are related to student teachers' relevant previous knowledge

# E.g.,

# LM & PCM

This lesson is to expose student teachers to and help them understand disk drives and power supply units and be able to choose which ones are suitable for use in the school system.

### ısı

In this lesson, student teachers will examine the various security concepts in Information Technology

# **Distinctive Aspects**

1.4. Pair with a colleague andi. identify the distinctive aspects of the lesson. e.g.,

# LM & PCM

**Disk Drives** 

# LSI

Vulnerabilities ii. Identify areas that need further clarification in the lesson. E.g.,

	LM & PCM	LM & PCM
	Hard disk drive support	Hard disk drive support
	LSI	LSI
	Threat Actors and Exploits	Threat Actors and Exploits
	NB: Remind tutors to plan	NB: Plan for your teaching
	for their teaching as they	as y go through the PD
	go through the PD session.	session. E.g., using Tutor-led
	E.g., using Tutor-led	discussion, self-prepared
	discussion, self-prepared	videos or from YouTube
	videos or from YouTube	video to aid the lesson.
	video to aid the lesson.	
As this course is	1.5 Take a lead role and	1.5 Discuss together the
dealing with	discuss with tutors the	development of
supporting and or	development of	components of the PTP and
assessing the	components of the PTP	Action Research report
Professional	and Classroom Enquiry and	writing by the student
Teaching Portfolio	Action Research report	teachers.
Development or	writing by the student	
the Classroom	teachers.	
Enquiry and	E.g.,	E.g.,
Action Research	a. Reflecting with the	a. Reflecting with the
Project Report	student teachers their	student teachers their
writing, tutors	experiences from the	experiences from the
should be	school on issues on GESI	school on issues on GESI
provided with	and the use of ICT tools	and the use of ICT tools and
guidance on what	and how these influence	how these influence their
to do including	their values of teaching	values of teaching and
organisation of	and learning.	learning.
Post Intern	b. Guiding the student	b. Guiding the student
Seminar.	teacher on how to collect	teacher on how to collect
	data on learners during	data on learners during
	lesson delivery	lesson delivery
	Refer to STS Year Three	Refer to STS Year Three
	School Placement	School Placement
	Handbook.	Handbook.
		Table 8.2.7.2 pg. 93, 115.
For each session	<b>Table 8.2.7.2 pg. 93, 115</b> .  1.6 Ask tutors to identify	1.6 Identify some ways by
remember this is	some ways by which	which student teachers can
the final semester	student teachers can	integrate ICT, GESI and CCI
before Students	integrate ICT, GESI and CCI	into their teaching and
start teaching	into their teaching and	learning.
provide prompts	learning.	1.03
to help support	0.	
this transition for		
and andicion jor	1	

planning and give	e.g.,	e.g.,	
regard for GESI,	a. Recording students'	a. Recording students'	
CCI, ICT etc	readings, readings,		
	b. Giving equal	b. Giving equal	
	opportunities and	opportunities and	
	treatments to all learners	treatments to all learners	
	including the marginalised.	including the marginalised.	
2 Concept	Concept Development	Concept Development	15 mins
Development	2.1 Ask tutors to identify	2.1 Identify the concepts in	
(New learning	the concepts in lesson 3 of	lesson 3 of the course	
likely to arise in	the course manuals for	manuals for discussion. I.e.,	
lesson/s):	discussion. I.e.,	,	
Identification	LSI Access Control	LSI Access Control	
and discussion	Fundamentals	Fundamentals (introduction	
of new	(introduction to	to Accountability process) I	
learning,	Accountability process) I	, , ,	
potential	,		
barriers to	LM & PCM	LM & PCM	
learning for	Building/Upgrading a	Building/Upgrading a	
student	computer	computer	
teachers or			
students, new	2.2 Ask tutors to write a	2.2 Write a possible barrier	
concepts or	possible barrier in learning	in learning the concepts	
pedagogy	the concepts (Access	(Access Control	
being	Control Fundamentals and	Fundamentals and Building/	
introduced in	Building/ Upgrading a	Upgrading a computer)	
the lesson,	computer) above for	above for discussion.	
which need to	discussion.		
be explored	E.g.,	E.g.,	
with the	LSI	LSI	
SL/HoD	Some student teachers	Some student teachers	
NB The guidance	might not have had	might not have had	
for SL/HoD should	knowledge and	knowledge and	
set out what they	understanding of Access	understanding of Access	
need to do to	control fundamentals in	control fundamentals in ICT	
introduce and	ICT and its impact on	and its impact on teaching	
explain the	teaching and learning.	and learning.	
issues/s with			
tutors	LM & PCM	LM & PCM	
	Student teachers may have	Student teachers may have	
	had very limited prior	had very limited prior	
	experience of using ICT	experience of using ICT	
	tools	tools	
	2.3 Ask tutors to identify	2.3 Identify appropriate	
	appropriate teaching	teaching strategies that can	
	strategies that can best		

	explain the new concepts	best explain the new	
	identified.	concepts identified.	
	i de i i i i i i i i i i i i i i i i i i		
	E.g., Modelled Teaching:	E.g., Modelled Teaching:	
	Modelled teaching is an	Modelled teaching is an	
	instructional strategy that	instructional strategy that	
	involves the teacher	involves the teacher	
	'showing' students how to	'showing' students how to	
	do a task. The teacher	do a task. The teacher	
	shows the task while also	shows the task while also	
	breaking it down into small	breaking it down into small	
	steps. This helps students	steps. This helps students to	
	to see how to complete the	see how to complete the	
	task.	task.	
3.Planning for	Planning for teaching,	Planning for teaching,	
teaching, learning	learning and assessment	learning and assessment	
and assessment	activities	activities	
activities for the			
lesson/s	3.1. Ask tutors to watch	3.1. Watch the YouTube	
➤ Reading and	the YouTube videos with	videos with the links below	
discussion of	the links below		
the teaching			
and learning	LSI – Access Control	LSI – Access Control	
activities	Fundamentals	Fundamentals	
➤ Noting,	https://youtu.be/XvR6ww	https://youtu.be/XvR6ww7	
addressing, and	<u>7F54w</u>	<u>F54w</u>	
explaining areas			
where tutors	LM &PCM –	LM &PCM –	
may require	Building/Upgrading a	Building/Upgrading a	
clarification	computer	computer	
≻Noting	https://www.youtube.com	https://www.youtube.com/	
opportunities	/watch?v=eYtSQkd7dQk	watch?v=eYtSQkd7dQk	
for making			
explicit links to	3.1.1 Ask Tutors to read	3.1.1 Read through the	
the Basic School	through the teaching and	teaching and learning	
Curriculum	learning activities outlined	activities outlined in lesson	
≻Noting	in lesson 3 of the courses	3 of the courses manuals	
opportunities	manuals and relate it to	and relate it to the video	
for integrating:	the video watched for	watched for group	
GESI	group discussion.	discussion.	
responsiveness	6. cap alocassion.		
and ICT and 21st	3.2 Ask Tutors to note	3.2 Note areas that require	
C skills	areas that require	clarification and/or	
	clarification and/or	contribution. <i>E.g.,</i>	
➤ Reading,	•	Contribution. E.g.,	
discussion, and identification of	contribution. <i>E.g.,</i>		
continuous			

assessment
opportunities in
the lesson. Each
lesson should
include at least
two
opportunities to
use continuous
assessment to
support student
teacher learning

- ➤ Resources:
- o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Youtube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
- guidance on any power point presentations, TLM or other resources which need to be developed to support learning
- ➤ Tutors should be expected to have a plan for the next lesson

# **LSI**Identification

LM &PCM PCI Slots, SATA

3.3. Ask tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 3. *E.g.*,

# LSI

Student teachers explain different security control systems to protect information systems.

# LM &PCM

Student teachers present individual reflective notes on the process of assembling a computer

- 3.4. In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.
- E g., NTS 3f: Pays attention to all learners, especially girls and students with Special Educational needs, ensuring their progress, 1a.
- 3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be

# LSI

Identification

# LM &PCM

PCI Slots, SATA

3.3. Discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 3. *E.g.*,

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- E g., NTS 3f: Pays attention to all learners, especially girls and students with Special

Educational needs, ensuring their progress, 1a.

3.5 Read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment

# for student teachers

used for assessment especially on NTEAP related activities. E.g.,

Presentation of individual reflective notes on analysis of the videos with the links: **LSI** – Access Control Fundamentals <a href="https://youtu.be/bNhIfHhrklo">https://youtu.be/bNhIfHhrklo</a>

### LM &PCM -

Building/Upgrading a computer <a href="https://www.youtube.com/watch?v=yGsc7x88KOI">https://www.youtube.com/watch?v=yGsc7x88KOI</a>

# Note

Encourage tutors to ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work).

3.6 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards) as well as Videos

Make sure the resources are enough and appropriate for all learners (especially people with SEN).

especially on NTEAP related activities. E.g.,

Presentation of individual reflective notes on analysis of the videos with the links: **LSI** – Access Control Fundamentals <a href="https://youtu.be/bNhlfHhrk">https://youtu.be/bNhlfHhrk</a> lo

### LM &PCM -

Building/Upgrading a computer <a href="https://www.youtube.com/watch?v=yGsc7x88KOI">https://www.youtube.com/watch?v=yGsc7x88KOI</a>

# Note

Encourage tutors to ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work).

3.6 List the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards) as well as Videos

Make sure the resources are enough and appropriate for all learners (especially people with SEN).

o 3.7 Brainstorm a plan that
an that will   will be appropriate for the
for the next   next lesson:
LSI
Access Control
Fundamentals (introduction
to Accountability process) I
process) I
LM &PCM
Building/Upgrading a
ding a computer
review of Evaluation and review of 15 min
session
o identify a 4.1 Identify a critical friend
sit in their to sit in your class during
son and lesson and report on
rvation observation during the next
PD session. PD session.
o identify 4.2 Identify any outstanding
g issues issues relating to lesson 3
on 3 from from the course manual for
ual for clarification
ors to read 4.3 Read lesson 4 from the
he PD PD manual and find
d relevant materials for the
e next next session.

# **Tutor PD Session**

Age Levels: JHS Name of Subject/s:

 Laboratory Management and PC maintenance (LM & PCM)

**Topic:** Software Installation I

2. Legal and Security Issues in ICT (LSI)

Topic: Access Control Fundamentals
(Authentication types) II

Name of Subject/s:

Year 4 Semester 2

Age Levels/s:

# **Tutor PD Session for Lesson 4**

Farma di d	ll a 4	Cuidanas nataras	Cuidanas Natas as T	<b>T:</b>
Focus: the bu		Guidance notes on	Guidance Notes on Tutor	Time in
points provid		Leading the session.	Activity during the PD	session
frame for wh		What the SL/HoDs will	<b>Session.</b> What PD Session	
be done in th	_	have to say during each	participants (Tutors) will	
session. The S		stage of the session	do during each stage of	
should use th			the session.	
to guide what	-			
write for the	-			
and tutors to				
say during ea				
session. Each	bullet			
needs to be				
addressed an	_			
specific refere				
should be ma				
the course ma	anual/s.			
1 Introduction	n to the	Introduction to the	Introduction to the	20 mins
session		session	session	
Review pr	ior	1.1 Ask tutors to write	1.1 Write any new thing	
learning		any new thing they learnt	you learnt in your last PD	
A critical f	riend to	in their last PD session on	session on lesson 3. i.e.,	
share find	ings for	lesson 3. i.e.,		
a short dis	cussion			
and lessor	ıs	LSI:	LSI:	
learned		Access Control I	Access Control I	
Reading a		LM & PCM:	LM & PCM:	
discussion		Assembling components	Assembling components	
introducto	,			
sections o		1.1.1 Ask tutors to share	1.1.1 Share what you	
lesson up		what they have written	have written for the	
including	earning	for the whole group	whole group discussion.	
		discussion.		

- outcomes and indicators
- Overview of content and identification of any distinctive aspects of the lesson/s,

NB The guidance for SL/HoD should identify, address and provide explanations for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD

session

- 1.2 Invite the tutor who observed Lesson 3 to share their experiences with the group.
- 1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 4 in the course manuals and indicate how they are related to student teachers' relevant previous knowledge. E.g.,

# LSI:

Student teachers will explore Authentication types under Access control fundamentals. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

# LM & PCM:

Student teachers will be exposed to how to configure and install softwares on a computer system. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

# **Distinctive Aspect**

1.4. Ask tutors to write any one (1) distinctive aspect of the lesson for discussion, i.e.

- 1.2 As a critical friend who observed Lesson 3, share your experiences and the impact on your facilitating in class
- 1.3 Read the introduction, lesson description and the purpose of lesson 4 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

# E.g., **LSI:**

Student teachers will explore Authentication types under Access control fundamentals. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

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# **Distinctive Aspect**

1.4. Write any one (1) distinctive aspect of the lesson for discussion. i.e.

	LSI:	LSI:	
	Authentication	Authentication	
	LM & PCM:	LM & PCM:	
	Formatting and	Formatting and	
	Partitioning	Partitioning	
	1.4.1 Ask tutors to share	1.4.1 Ask tutors to share	
	their responses with a	their responses with a	
	colleague.	colleague.	
As this course is	1.5 Ask tutors to remind	1.5 Remind student	
dealing with	student teacher to: use	teachers to use the ideas	
supporting and or	the ideas generated to	generated to prepare a	
assessing the	prepare a template for	template for building a	
Professional Teaching Portfolio	building a professional teaching portfolio.	professional teaching portfolio.	
Development or the	teaching portions.	μοι τισπο.	
Classroom Enquiry	1.6 Remind the student	1.6 Remind the student	
and Action Research	teacher to observe the	teachers to observe the	
Project Report	entire class during lesson	entire class during lesson	
writing, tutors should	deliveries and closely	deliveries and closely take	
be provided with	take note of learners with	note of learners with	
guidance on what to	special learning needs	special learning needs	
do including	using observation guide	using observation guide	
organisation of Post	they have designed.	they have designed.	
Internship Seminar.			
For each session	1.7 Ask tutors to	1.7 Encourage student	
remember this is the	encourage student	teachers to make a	
final semester before	teacher to make a	recording of a lesson they	
Students begin	recording of a lesson they	delivered with the help of	
teaching provide prompts to help	delivered with the help of ICT tools (e.g., your	ICT tools (e.g., your phone, a video camera,	
support this	phone, a video camera,	an audio tape recorder).	
transition for	an audio tape recorder).	an addio tape recorders.	
planning and give	a saaro tape recorderj.		
regard for GESI, CCI,			
ICT etc.			
2 Concept	Concept Development	Concept Development	15 mins
Development (New	2.1 Taking a leading role,	2.1 Discussion the major	
learning likely to arise	engage tutors in a	concepts in the lesson:	
in lesson/s):	discussion on the major		
Identification and	concepts in the lesson:		
discussion of new	e.g.,	e.g.,	
learning, potential	LSI:	LSI:	
barriers to	Authentication.	Authentication.	
learning for			
student teachers			

	1	1	1
or students, new	LM & PCM:	LM & PCM:	
concepts or	Formatting and	Formatting and	
pedagogy being	partitioning of drives.	partitioning of drives.	
introduced in the			
lesson, which	2.2 Ask tutors to discuss	2.2 Discuss the potential	
need to be	the potential	misconceptions and	
explored with the	misconceptions and	barriers with respect to	
SL/HoD	barriers with respect to	the concepts listed above.	
NB The guidance for	the concepts listed	the concepts listed above.	
SL/HoD should set out	above.		
what they need to do		E.a. Somo student	
to introduce and	E.g., Some student	E.g., Some student	
	teachers might not have	teachers might not have	
explain the issues/s	had knowledge and	had knowledge and	
with tutors, they	understanding of	understanding of	
should take feedback	Authentication types	Authentication types	
to gauge	under Access control	under Access control	
understanding and	fundamentals and its	fundamentals and its	
support tutor	impact on teaching and	impact on teaching and	
engagement.	learning.	learning.	
	2.3 Ask tutors to identify	2.3 Identify the most	
	the most appropriate	appropriate teaching	
	teaching strategies that	strategies that can be	
	can be employed to best	employed to best explain	
	explain the new concepts	the new concepts	
	identified.	identified.	
	E.g., Using a	E.g., Using a	
	demonstration to show a	demonstration to show a	
	student teacher how a	student teacher how a	
	mobile phone	mobile phone	
	authenticates a user.	authenticates a user.	
2 Dlamaina fau			40
3.Planning for	Planning for teaching,	Planning for teaching,	40 mins
teaching, learning	learning and assessment	learning and assessment	
and assessment	activities	activities	
activities for the	3.1 Ask tutors to read the	3.1 Read the teaching and	
lesson/s	teaching and learning	learning activities of	
Reading and	activities of lesson 4 from	lesson 4 from the course	
discussion of the	the course manual.	manual. E.g.,	
teaching and	E.g.,	LSI:	
learning activities	LSI:	Show a video on	
Noting,	Tutor shows a video on	Authentication by	
addressing, and	Authentication by	Knowledge.	
explaining areas	Knowledge.		
where tutors may			
require	LM & PCM:		
clarification		LM & PCM:	
o.a.meation	l		ı

- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating: GESI responsiveness and ICT and 21<sup>st</sup> C skills
- Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning, subject specific examples should be provided for SL/HoD
- Resources: links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability

Tutor introduces student teachers to the formatting and partitioning drives and why it is necessary to format.

3.2 Ask tutors to identify any aspect that needs clarification. e.g.,

#### LSI:

Authentication

# LM & PCM

Formatting

3.3 In groups of at least 2, lead tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of lesson 10 from the course manuals.

# e.g.,

#### LSI:

Student teacher watches video and answers questions about what Authentication Ownership entails.

#### LM & PCM:

Student teachers work in smaller groups to discuss the aspects of formatting and partitioning drives assigned to them and give a presentation to the class.

3.3 Ask tutors to discuss how GESI issues related to the teaching and

Introduces student teachers to the formatting and partitioning drives and why it is necessary to format.

3.2 Identify any aspect that needs clarification. e.g.,

#### LSI:

Authentication

#### LM & PCM

**Formatting** 

3.3 In groups of at least 2 discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of lesson 10 from the course manuals.

# e.g.,

#### LSI:

Student teacher watches video and answers questions about what Authentication Ownership entails.

#### LM & PCM:

Student teachers work in smaller groups to discuss the aspects of formatting and partitioning drives assigned to them and give a presentation to the class.

3.3 Discuss how GESI issues related to the teaching and learning

Tutors should be expected to have a plan for the next lesson for student teachers learning activities of the lesson would be addressed in the lesson. E.g., Student teacher should make sure that Constructive/Positive verbal feedback is to both male and female in class.

3.4 Ask tutors to identify any 21<sup>st</sup> century skills that can be developed or applied in the lesson and how they can help student teachers to support basic school leaners to develop these skills through STS activities.

E.g., Collaboration: Group presentation on written reports.

3.5 Ask tutors to read the assessment activities in the course manuals and identify areas that require clarification.

E.g.,

#### LSI:

Student teachers work on authentication by ownership and Authentication by Characteristic as an assignment and write notes in their reflective journals.

#### LM & PCM:

Group presentations of discussions in class to be assessed by student teachers themselves.

activities of the lesson would be addressed in the lesson.

E.g., Student teacher should make sure that Constructive/Positive verbal feedback is to both male and female in class.

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#### LSI:

Student teachers work on authentication by ownership and Authentication by Characteristic as an assignment and write notes in their reflective journals.

#### LM & PCM:

Group presentations of discussions in class to be assessed by student teachers themselves.

	T	T	ı
	Note!!	Note!!	
	These could be added to	These could be added to	
	their subject portfolio/	their subject portfolio/	
	project	project	
	3.6. Ask tutors to identify	3.6. Identify inclusive	
	inclusive resources for	resources for teaching	
	teaching and learning of	and learning of the	
	the concepts in both CoE	concepts in both CoE and	
	and basic school	basic school classroom.	
	classroom.		
	E.g., Smart phones,	E.g., Smart phones, Audio-	
	Audio-visuals from	visuals from YouTube,	
	YouTube, projector.	projector.	
	3.7 Ask tutors to have	3.7 Have concrete plans	
	concrete plans for	for teaching the next	
	teaching the next topic.	topic.	
	1		
4. Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
4. Evaluation and review of session:	Evaluation and review of session	Evaluation and review of session	15 mins
			15 mins
review of session:	session	session	15 mins
review of session: <ul><li>Tutors should</li></ul>	session 4.1. Ask tutors to	session 4.1. Individually identify	15 mins
review of session:  > Tutors should Identifying critical	session 4.1. Ask tutors to individually identify any	session 4.1. Individually identify any outstanding issues	15 mins
review of session:  > Tutors should Identifying critical friends to observe	session 4.1. Ask tutors to individually identify any outstanding issues	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session Identifying and	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed.	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed. 4.2. Ask tutors to identify	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed. 4.2. Identify a critical	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed. 4.2. Ask tutors to identify a critical friend to observe the PD session	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed. 4.2. Ask tutors to identify a critical friend to observe the PD session and report on	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed. 4.2. Ask tutors to identify a critical friend to observe the PD session	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the next PD session.	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the next PD session.	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the next PD session.  4.3. Ask tutors to read	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the next PD session.  4.3. Read lesson 5 from	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed. 4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the next PD session. 4.3. Ask tutors to read lesson 5 from the PD	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the next PD session.  4.3. Read lesson 5 from the PD manual and find	15 mins
review of session:  Tutors should Identifying critical friends to observe lessons and report at next session  Identifying and addressing any outstanding issues relating to the lesson/s for	session 4.1. Ask tutors to individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the next PD session.  4.3. Ask tutors to read lesson 5 from the PD manual and find its	session 4.1. Individually identify any outstanding issues relating to lesson 4 to be addressed.  4.2. Identify a critical friend to observe the PD session and report on observations during the next PD session.  4.3. Read lesson 5 from the PD manual and find its relevant materials for	15 mins

#### **Tutor PD Session**

Age Level: JHS

### Name of Subject/s:

 Laboratory Management and PC Maintenance (LM & PCM)

Topic: Software Installation I

2. Legal and Security Issues in ICT (LSI)
Topic: Access Control Fundamentals
(Authentication methods) III

Year 4 Semester 2

#### **Tutor PD Session for Lesson 5**

Fo	cus: the bullet	Guidance notes on Leading	Guidance Notes on Tutor	Time
ро	ints provide the	the session. What the	Activity during the PD	in
fra	me for what is to	SL/HoDs will have to say	Session. What PD Session	session
be	done in the	during each stage of the	participants (Tutors) will do	
ses	ssion. The SWL	session	during each stage of the	
sh	ould use the		session.	
bu	llets to guide			
what they write for				
the SL/HoD and				
tutors to do and				
say	y during each			
ses	ssion. Each bullet			
ne	eds to be			
ad	dressed and			
sp	ecific reference			
sh	ould be made to			
	e course			
ma	anual/s.			
1 I	ntroduction to	Introduction to the session	Introduction to the session	20
the	e session	1.1 Ask tutors to reflect and	1.1 Reflect and discuss the	mins
	Review prior	discuss the previous PD	previous PD Session (Lesson	
	learning	Session (Lesson 4) and its	4) and its benefits on the	
	A critical friend	benefits on the lessons	lessons thought	
	to share findings	thought		
	for a short	i.e.,	i.e.,	
	discussion and	LSI	LSI	
	lessons learned	Access Control	Access Control	
	Reading and	Fundamentals	Fundamentals	
	discussion of	(Authentication types) II	(Authentication types) II	
	the introductory			
	sections of the	e.g., Authentication	e.g., Authentication	
	lesson up to and	by Knowledge	by Knowledge	
	including			
	learning	LM &PCM	LM &PCM	
		Software installation I	Software installation I	

- outcomes and indicators
- Overview of content and identification of any distinctive aspects of the lesson/s,

NB The guidance for SL/HoD should identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

- e.g., Formatting and partitioning of drives and installation of operating systems
- 1.2 Invite the critical friend who observed Lesson 4 to share his/her views and the impacts on their facilitating in class.
- 1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 5 in the course manual and indicate how they are related to student teachers' relevant previous knowledge. E.g.,

#### LSI

Student teachers will explore Authentication types under Access control fundamentals. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes)

#### LM & PCM

Student teachers will be exposed to the processes for installing an application/utility/antivirus software on a computer

#### **Distinctive Aspects**

1.4. Ask tutors to write 1 distinctive aspect of the lessons from the course manuals for group discussion e.g.,

- e.g., Formatting and partitioning of drives and installation of operating systems
- 1.2 As a critical friend who observed Lesson 4, share your experiences and the impact on your facilitating in class
- 1.3 Read the introduction, lesson description and the purpose of lesson 5 in the course manual and indicate how they are related to student teachers' relevant previous knowledge. E.g.,

#### LSI

Student teachers will explore Authentication types under Access control fundamentals. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes)

#### LM & PCM

Student teachers will be exposed to the processes for installing an application/utility/antivirus software on a computer

#### **Distinctive Aspects**

1.4. Write 1 distinctive aspect of the lessons from the course manual for group discussion. e.g.,

	LSI	LSI
	Mechanisms for	Mechanisms for
	authentication	authentication
		datientication
	LM & PCM	LM & PCM
	i. Device and Driver	i. Device and Driver
	installation	installation
	ii. Application Software	ii. Application Software
	installation	installation
	iii. Antivirus	iii. Antivirus
	Allow Room Discussion	
As this course is	1.5 Lead tutors in a	1.5 Discuss together the
dealing with	discussion on the	development of
supporting and/or	development of	components of the PTP and
assessing the	components of the PTP and	Classroom Enquiry and
Professional	Classroom Enquiry and	Action Research report
Teaching Portfolio	Action Research report	writing.
Development	writing.	E.g.,
and/or the	E.g.,	i. Reviewing their personal
Classroom Enquiry	i. Reviewing their personal	teaching philosophy
and Action	teaching philosophy	statement.
Research Project	statement.	
Report writing,	ii. Guiding student teachers	ii. Guiding student teachers
tutors should be	in framing research	in framing research
provided with	questions to undertake	questions to undertake
guidance on what	small scale researches.	small scale researches.
to do including		
organisation of		
Post Internship		
Seminar.		
For each session	1.6 Ask tutors to identify	1.6 Identify some ways by
remember this is	some ways by which	which student teachers can
the final semester	student teachers can	integrate ICT, GESI and CCI
before Students	integrate ICT, GESI and CCI	into their teaching and
begin teaching	into their teaching and	learning.
provide prompts to	learning.	e.g.,
help support this	e.g.,	i. Checking to see if both the
transition for	i. Checking to see if both	brilliant and weak learners
planning and give	the brilliant and weak	understand the lesson.
regard for GESI,	learners understand the	ii. Integrating educational
CCI, ICT etc.	lesson.	games into lessons.
	ii. Integrating educational	
	games into lessons.	

# 2 Concept Development (New learning likely to arise in lesson/s):

Identification and discussion of new learning, potential barriers to learning for student teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set

with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.

#### **Concept Development**

2.1 Ask tutors to list and share with colleagues the major concept(s) in lesson 5 from the course manuals. E.g.,

#### LSI

Access Control
Fundamentals
(Authentication methods) III

#### LM & PCM

Software Installation II

- 2.1.1 Ask tutors to discuss the major concepts identified in 2.1 above
- 2.2 Ask tutors to write any possible challenge/ misconception in teaching the concept above for discussion. e.g.,

#### LSI

Some student teachers might not have had knowledge and understanding of Access control fundamentals II

#### LM & PCM

Colleges of education may have large class sizes that will hinder practical lessons

2.3 Ask tutors to identify any appropriate teaching strategy that can be used to best explain the new concepts identified. E.g.,

#### **Concept Development**

2.1 List and share with colleagues the major concept(s) in lesson 5 from the course manuals. E.g.,

#### LSI

Access Control
Fundamentals
(Authentication methods) III

#### LM & PCM

Software Installation II

- 2.1.1 Discuss the major concepts identified in 2.1 above
- 2.2 Write any possible challenge/ misconception in teaching the concept above for discussion. e.g.,

#### LSI

Some student teachers might not have had knowledge and understanding of Access control fundamentals II

#### LM & PCM

Colleges of education may have large class sizes that will hinder practical lessons

2.3 Identify any appropriate teaching strategy that can be used to best explain the new concepts identified. E.g.,

15

	LSI	LSI	
	Engaging in a discussion	Engaging in a discussion to	
	to explain mechanisms for	explain mechanisms for	
	authentication	authentication	
	LM &PCM	LM &PCM	
	Using practical approach to	Using practical approach to	
	demonstrate how to	demonstrate how to format,	
	format, partition and install	partition and install an	
	an application / utility/	application / utility/	
	antivirus software on a	antivirus software on a	
	computer	computer	
3.Planning for	Planning for teaching,	Planning for teaching,	40
teaching, learning	learning and assessment	learning and assessment	mins
and assessment	activities	activities	
activities for the	3.1 Ask tutors to read the	3.1 Read the teaching and	
lesson/s	teaching and learning	learning activities of lesson	
Reading and	activities of lesson 5 from	5 from the course manual.	
discussion of the	the course manuals.		
teaching and			
learning activities	3.1.1 Ask tutors to identify	3.1.1 Identify areas that	
➤ Noting,	areas that require further	require further	
addressing, and	clarifications.	clarifications.	
explaining areas	E.g.,	E.g.,	
where tutors may	LSI	LSI	
require	Other mechanisms of	Other mechanisms of	
clarification	Authentication	Authentication	
➤ Noting			
opportunities for	LM & PCM	LM & PCM	
making <i>explicit</i>	Antivirus versus Firewall.	Antivirus versus Firewall	
links to the Basic			
School	3.2 Ask tutors to discuss	3.2 Discuss how the	
Curriculum	how the different activities	different activities identified	
➤ Noting	identified would be carried	would be carried out in both	
opportunities for	out in both CoE and basic	CoE and basic school	
integrating: GESI	school curriculum to	curriculum to achieve the	
responsiveness	achieve the LOs and the LIs	LOs and the LIs of the	
and ICT and 21st C	of the course manual for	course manual for lesson.	
skills	lesson. E.g.,	E.g.,	
Reading,			
discussion, and	LSI	LSI	
identification of	Tutor breaks class into small	Tutor breaks class into small	
continuous	diverse groups to analyse	diverse groups to analyse	
assessment	the video identifying	the video identifying	
opportunities in	Authentication by	Authentication by	
the lesson. Each	Knowledge	Knowledge	
lesson should			

include at least two opportunities to use continuous assessment to support student teacher learning, subject specific examples should be provided for SL/HoD

- $\triangleright$ Resources: links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
  - Tutors
    should be
    expected to
    have a plan
    for the next
    lesson for
    student
    teachers

#### LM & PCM

Tutor shows images/videos on the process of installing an operating system onto a computer.

3.3 In pairs, ask tutors to identify any core and transferable skills, including 21st skills and the use of information technology tools can be developed or applied in the lesson and demonstrate how they can help student teachers to support basic school leaners to develop these skills. E.g.,

Critical thinking skills of Student teachers to develop wikis in their respective groups on "the processes for installing an application/utility/antivirus Software on a computer.

3.4 Ask tutors to read and discuss the assessment activities in the manual and identify areas in the lesson that can be used for assessment especially those in alignment with the NTEAP related activities. E.g.,

#### LSI

Student teachers do a group presentation on mechanisms for authentication to recap the lesson.

#### LM & PCM

i. Quiz to evaluate knowledge on Installing

#### LM & PCM

Tutor shows images/videos on the process of installing an operating system onto a computer.

3.3 Identify any core and transferable skills, including 21st skills and the use of information technology tools can be developed or applied in the lesson and demonstrate how you can help student teachers to support basic school leaners to develop these skills. E.g.,

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#### LSI

Student teachers do a group presentation on mechanisms for authentication to recap the lesson.

#### LM & PCM

i. Quiz to evaluate knowledge on Installing

software ii. Individual student teachers develop reflective notes and ask questions to clarify thinking.  3.4.1 Let tutors focus be on subject project and the subject portfolio of NTEAP document.  NB: Make sure that everybody has a real plan for teaching the given topics with emphasis on equality and inclusivity of both gender  3.5 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school classroom.  E.g., Ms. PowerPoint, Laptop, smartphones, system units  3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e., LSI	Individual student rachers develop reflective otes and ask questions to arify thinking.  4.1 Your focus should be a subject project and the abject portfolio of NTEAP ocument.  B: Make sure you have a real plan for teaching the iven topics with emphasis an equality and inclusivity of oth gender  5 List the needed inclusive esources for the teaching and learning of the concepts entified in both CoE and	
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gender  3.5 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school classroom.  E.g., Ms. PowerPoint, Laptop, smartphones, system units  3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e., LSI	5 List the needed inclusive sources for the teaching and learning of the concepts	
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E.g., Ms. PowerPoint, Laptop, smartphones, system units  3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI  LSI  LSI  LSI  LSI  LS	asic school classroom.	
Laptop, smartphones, system units  3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI  LSI  LSI  LSI  LSI  LS		
Laptop, smartphones, system units  3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI  LSI  LSI  LSI  LSI  LS		
system units  3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI  LSI	g., Ms. PowerPoint,	
3.6 Ask Tutors to have a concrete plan that would be employed in teaching the next lesson in class i.e.,	aptop, smartphones,	
concrete plan that would be employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI	rstem units	
concrete plan that would be employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI		
employed in teaching the next lesson in class i.e.,  LSI  LSI  LSI	6. Have a concrete plan	
next lesson in class i.e., cla	nat would be employed in	
LSI	eaching the next lesson in	
	ass i.e.,	
Access Control Ac	SI	
1.10000 00.11.01	ccess Control	
Fundamentals Fu	undamentals	
(Authentication methods) III (A	authentication methods) III	
LM & PCM LN		
Software Installation II So	M & PCM	
	M & PCM oftware Installation II	
		15
> Tutors should 4.1. Individually, ask tutors 4.1	oftware Installation II	15 mins
Identifying to identify any outstanding ou	oftware Installation II valuation and review of	
critical friends	oftware Installation II Valuation and review of ession	
review of session:  > Tutors should Identifying  session 4.1. Individually, ask tutors to identify any outstanding out		

	to observe lessons and	issues relating to the lesson for clarification	to the lesson for clarification	
	report at next			
	session	4.2 Ask tutors to identify a	4.2 Identify a critical friend	
>	Identifying and	critical friend to sit in their	to sit in your class during	
	addressing any	class during lesson and	lesson and report on	
	outstanding	report on observation	observation during the next	
	issues relating to the lesson/s	during the next PD session	PD session	
	for clarification	4.3 Ask tutors to read	4.3 Read lesson 6 from the	
		lesson 6 from the PD	PD manual and find relevant	
		manual and find relevant	materials for the next PD	
		materials for the next PD	session	
		session		

#### **Tutor PD Session**

#### Age Level: JHS

### Name of Subject/s:

- Laboratory Management and PC maintenance (LM & PCM) Topic: Troubleshooting common computer problems
- Legal and Security Issues in ICT (LSI)

Topic: Access Control Fundamentals (Authorization and Auditing methods) IV

#### Year 4

Semester 2
Tutor PD Session for Lesson 6 in the Course Manual

Fo	cus: the bullet	Guidance notes on	Guidance Notes on Tutor	Time in
ро	ints provide the	Leading the session. What	Activity during the PD	session
fra	me for what is to	the SL/HoDs will have to	Session. What PD Session	
be	done in the	say during each stage of	participants (Tutors) will	
ses	ssion. The SWL	the session	do during each stage of the	
sh	ould use the		session.	
bu	llets to guide			
wh	nat they write for			
the	e SL/HoD and			
tut	tors to do and say			
du	ring each session.			
Ea	ch bullet needs to			
be	addressed and			
spe	ecific reference			
sh	ould be made to			
the	e course			
ma	anual/s.			
1 I	ntroduction to	Introduction to the lesson	Introduction to the lesson	20 mins
the	e session	1.1 Ask tutors to write	1.1 Write down one thing	
	Review prior	down one thing they learnt	you learnt in the previous	
	learning	in the previous PD lesson	PD lesson (lesson 5) and	
	Reading and	(lesson 5) and give some	give some reflections as to	
	discussion of the	reflections as to how	how useful it was on the	
	introductory	useful it was on the	lessons taught. i.e.,	
	sections of the	lessons taught. i.e.,		
	lesson up to and			
	including	LM & PCM	LM & PCM	
	learning	Software Installation II	Software Installation II	
	outcomes and			
	indicators	LSI	LSI	
	Overview of	Access Control	Access Control	
	content and	Fundamentals	Fundamentals	

identification of any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

(Authentication methods)

- 1.2 Invite the critical friend who observed the Lesson 5 to share their experiences and the impacts on their facilitating in class.
- 1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 6 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

(Authentication methods)

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- 1.3 Read the introduction, lesson description and the purpose of lesson 6 in the course manual and indicate how they are related to student teachers' relevant previous knowledge

### E.g., **LM & PCM**

In this lesson, student teachers would be introduced to the basics of troubleshooting a computer.

#### LSI

In this lesson, Student teachers will be introduced to Authorisation and Auditing Methods.

#### **Distinctive Aspects**

1.4. Ask tutors to be in smaller groups and i. identify the distinctive aspects of the lesson. e.g.,

#### LM & PCM

Diagnostic Procedures, Troubleshooting Techniques

#### LSI

Authorisation, Auditing

#### E.g., **LM & PCM**

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#### **Distinctive Aspects**

1.4. In smaller groups, i. identify the distinctive aspects of the lesson. e.g.,

#### LM & PCM

Diagnostic Procedures, Troubleshooting Techniques

#### LSI

Authorisation, Auditing

ii. Identify areas that need ii. Identify areas that need further clarification in the	
further clarification in the   further clarification in the	
lesson. E.g.,	
LM & PCM LM & PCM	
Utility Utility	
othicy othicy	
LSI LSI	
Authorisation Authorisation	
NB: Remind tutors to plan NB: Remember to plan for	
for their teaching as they your teaching as they go	
go through the PD session. through the PD session.	
E.g., using Tutor-led E.g., using Tutor-led	
discussion, self-prepared discussion, self-prepared	
videos or from YouTube videos or from YouTube	
video to aid the lesson. video to aid the lesson.	
As this course is 1.5 Take a lead role and 1.5 Discuss with your	
dealing with discuss with tutors the colleagues the	
supporting and or development of development of	
components of the PTP components of the PTP	
Professional and Classroom Enquiry and and Classroom Enquiry and	
Teaching Portfolio         Action Research report         Action Research report	
Development or the writing by the student writing by the student	
Classroom Enquiry teachers. E.g., teachers. E.g.,	
and Action Research	
Project Report a. Reflecting with the a. Reflecting with the	
writing, tutors student teachers their student teachers their	
should be provided experiences from the experiences from the	
with guidance on school on issues on GESI school on issues on GESI	
what to do and the use of ICT tools and the use of ICT tools	
<i>including</i> and how these influence and how these influence	
organisation of Post   their values of teaching   their values of teaching	
Intern Seminar. and learning. and learning.	
b. Guiding the student b. Guiding the student	
teacher on how to collect teacher on how to collect	
data on learners during data on learners during	
lesson delivery lesson delivery	
Refer to STS Year Three Refer to STS Year Three	
School Placement School Placement	
Handbook. Handbook.	
Table 8.2.7.2 pg. 93, 115. Table 8.2.7.2 pg. 93, 115.	
For each session 1.6 Ask tutors to identify 1.6 Identify some ways by	
remember this is some ways by which which student teachers	
the final semester student teachers can can integrate ICT, GESI and	

T	T	T = =	1
before Students	integrate ICT, GESI and CCI	CCI into their teaching and	
start teaching	into their teaching and	learning.	
provide prompts to	learning.		
help support this	_		
transition for	e.g.,	e.g.,	
planning and give		_	
	a. Creating videos from	a. Creating videos from	
regard for GESI, CCI,	activities performed with	activities performed with	
ICT etc	learners,	learners,	
	b. Supporting the student	b. Supporting the student	
	teacher to review their	teacher to review their	
	previous knowledge on	previous knowledge on	
	SEN.	SEN.	
2 Concept	Concept Development	Concept Development	15 mins
Development (New	2.1 Ask tutors to identify	2.1 Identify the concepts in	
_ ·	_	lesson 6 of the course	
learning likely to	the concepts in lesson 6 of		
arise in lesson/s):	the course manuals for	manuals for discussion.	
Identification	discussion.	l.e.,	
and discussion of	l.e.,		
new learning,	LSI	LSI	
potential	Access Control	Access Control	
barriers to	Fundamentals	Fundamentals	
learning for	(Authentication methods)	(Authentication methods)	
student teachers			
	111	""	
or students, new	104 C DC04	114 0 0014	
concepts or	LM & PCM	LM & PCM	
pedagogy being	Building/Upgrading a	Building/Upgrading a	
introduced in	computer	computer	
the lesson,			
which need to	2.2 Ask tutors to write a	2.2 Write a possible barrier	
be explored with	possible barrier in learning	in learning the concepts	
the SL/HoD	the concepts (Access	(Access Control	
NB The guidance for	Control Fundamentals and	Fundamentals and	
SL/HoD should set	Building/ Upgrading a	Building/ Upgrading a	
	0. 10 0		
out what they need	computer) above for	computer) above for	
to do to introduce	discussion.	discussion.	
and explain the	E.g.,	E.g.,	
issues/s with tutors	LSI	LSI	
	Some student teachers	Some student teachers	
	might not have had	might not have had	
	knowledge and	knowledge and	
	understanding of Web and	understanding of Web and	
	Mobile Development in	Mobile Development in	
	Education and its impact	Education and its impact	
	•	•	
	on teaching and learning	on teaching and learning	

#### LM & PCM

Students may have misconceptions about policies and their effects on teaching and learning.

2.3 Ask tutors to identify appropriate teaching strategies that can best explain the new concepts identified.

E.g., Guided Practice /
Cognitive Apprenticeship:
Students follow along with
their teacher as an
'apprentice'. By working
side-by-side, they learn the
subtle little things ('tacit
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know in order to master a
skill.

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knowledge') required to
know in order to master a
skill.

# 3.Planning for teaching, learning and assessment activities for the lesson/s

- Reading and discussion of the teaching and learning activities
- Noting, addressing, and explaining areas where tutors may require clarification
- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating: GESI

# Planning for teaching, learning and assessment activities

3.1. Ask Tutors to individually read through the teaching and learning activities outlined in lesson 6 of the course manuals for group discussion. e.g.,

#### LSI

Tutor uses an interactive lecturette to explain Authorization methods. Using videos Tutor will explain Authorization methods

#### LM & PCM

Tutor shows images/videos on the tools and diagnostic procedures for troubleshooting.

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#### LM & PCM

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- responsiveness and ICT and 21<sup>st</sup> C skills
- Reading,
  discussion, and
  identification of
  continuous
  assessment
  opportunities in
  the lesson. Each
  lesson should
  include at least
  two
  opportunities to
  use continuous
  assessment to
  support student
  teacher learning
- > Resources:
- o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Youtube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
- availability
   guidance on any power point presentations,
   TLM or other resources which need to be developed to

- 3.2 Ask tutors to watch the YouTube videos with the links below
- LSI Authorisation and Auditing <a href="https://www.youtube.com/">https://www.youtube.com/</a> /watch?v=BOFYZbvxRrg

#### LM &PCM -

Troubleshooting
Computers
<a href="https://www.youtube.com">https://www.youtube.com</a>
/watch?v=EJemXALSE6U

- 3.2.1 Ask Tutors to discuss the video they have watched in comparison with the learning activities outlined in lesson 6 of the course manuals.
- 3.3 Ask Tutors to note areas that require clarification and/or contribution. *E.g.*,

#### LSI

**Auditing Methods** 

#### LM & PCM

Diagnostic procedures

3.3. Ask tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 6. *E.g.*,

#### LSI

Student teachers would watch videos about

- 3.2 Watch the YouTube video with the link below
- LSI Authorisation and Auditing <a href="https://www.youtube.com/">https://www.youtube.com/</a> /watch?v=BOFYZbvxRrg

#### LM &PCM -

Troubleshooting
Computers
<a href="https://www.youtube.com/">https://www.youtube.com/watch?v=EJemXALSE6U</a>

- 3.2.1 Discuss with your colleagues the video you have watched in comparison with the learning activities outlined in lesson 6 of the course manuals.
- 3.3 Note areas that require clarification and/or contribution. *E.g.*,

#### LSI

**Auditing Methods** 

#### LM & PCM

Diagnostic procedures

3.3. Discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 6. *E.g.*,

#### LSI

Student teachers would watch videos about

support learning

Tutors should be expected to have a plan for the next lesson for student teachers responsible use of technology systems.

#### LM &PCM

Student teachers would prepare and give presentations in groups and individuals.

3.4. In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.

E g.,

NTS 3f: Pays attention to all learners, especially girls and students with Special Educational needs, ensuring their progress, 1a.

3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment in alignment with NTEAP related activities. E.g.,

#### LSI

Student teachers write to explain Authorisation and Auditing Methods.

#### LM &PCM

Student teacher produce reflective notes on "diagnostic tools, diagnostic procedures, troubleshooting techniques, common PC problems and their fixes.

responsible use of technology systems.

#### LM &PCM

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#### LSI

Student teachers write to explain Authorisation and Auditing Methods.

#### LM &PCM

Student teacher produce reflective notes on "diagnostic tools, diagnostic procedures, troubleshooting techniques, common PC problems and their fixes.

#### Note

Ask tutors to encourage student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work).

3.6 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards) as well as Videos

Make sure the resources are enough and appropriate to all learners (especially people with SEN).

3.7 Ask tutors to brainstorm a plan that will be appropriate for the next lesson:

#### LSI

Access Control Fundamentals (Authorization and Auditing methods) IV

#### LM &PCM

Troubleshooting common computer problems

#### Note

Encourage studentteachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work).

3.6 List the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

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3.7 Brainstorm a plan that will be appropriate for the next lesson:

#### LSI

Access Control Fundamentals (Authorization and Auditing methods) IV

#### LM &PCM

Troubleshooting common computer problems

4. Evaluation and	<b>Evaluation and review of</b>	Evaluation and review of	15 mins
review of session:	session	session	
a. Tutors need to	4.1 Ask tutors to identify a	4.1 Identify a critical friend	
identify critical	critical friend to sit in their	to sit in your class during	
friends to observe	class during lesson and	lesson and report on	
lessons and report	report on observation	observation during the	
at next session	during the next PD session.	next PD session.	
b. Identifying and			
addressing any	4.2 Ask tutors to identify	4.2 Identify any	
outstanding issues	any outstanding issues	outstanding issues relating	
relating to the	relating to lesson 6 from	to lesson 6 from the	
lesson/s for	the course manual for	course manual for	
clarification	clarification	clarification	
	4.3 Remind tutors to read	4.3 Read lesson 7 from the	
	lesson 7 from the PD	PD manual and find	
	manual and find relevant	relevant materials for the	
	materials for the next	next session.	
	session.		

#### **Tutor PD Session**

Age Level: JHS Name of Subject/s: ICT

Year 4 Semester 2

#### **Tutor PD Session for Lesson 7**

prowh ses uso wh SL/ and ses ne and sho	cus: the bullet points ovide the frame for lat is to be done in the ssion. The SWL should the bullets to guide lat they write for the lat they write for the lat they during each ssion. Each bullet leds to be addressed dispecific reference bulled be made to the larse manual/s.	Guidance notes on Leading the session. What the SL/HoDs will have to say during each stage of the session	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session
1 I	ntroduction to the	Introduction to the	Introduction to the	20
ses	ssion	session	session	mins
>	Review prior learning			
>	A critical friend to	Begin the lesson with	Begin the lesson with	
	share findings for a short discussion and	an Ice Breaker	an Ice Breaker	
	lessons learned	1.1 Ask tutors to write	1.1 Write any new thing	
>	Reading and	any new thing they	you learnt in your last	
	discussion of the	learnt in their last PD	PD session on lesson 6.	
	introductory sections	session on lesson 6. i.e.,	i.e., Knowledge and	
	of the lesson up to	Knowledge and	understanding of	
	and including learning	understanding of		
	outcomes and			
	indicators	LSI:	LSI:	
	Overview of content	Access Control	Access Control	
	and identification of	Fundamentals	Fundamentals	
	any <b>distinctive</b>	(Authorization and	(Authorization and	
	aspects of the	Auditing methods) IV	Auditing methods) IV	
	lesson/s,			
	The guidance for	LM & PCM:	LM & PCM:	
	'HoD should identify,	Troubleshooting	Troubleshooting	
	dress and <i>provide</i>	common computer	common computer	
wh	planations for any areas here tutors might	problems	problems	
	quire clarification on an	1.1.1 Ask tutors to share	1.1.1 Share what you	
asp	pect of the lesson.	what they have written	have written for the	
SL/	HoD take feedback to	for the whole group	whole group discussion.	
gai	uge understanding and	discussion.		

support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

- 1.2 Invite the tutor who observed Lesson 6 to share their experiences with the group.
- 1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 6 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

#### E.g., **LSI:**

In this lesson, student teachers will be introduced to logical controls under types of information security controls. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

#### LM & PCM:

The purpose of this lesson is to introduce student teachers to PC maintenance. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

# **Distinctive Aspect** 1.4. Ask tutors to brainstorm on the

- 1.2 As a critical friend who observed Lesson 6, share your experiences and the impact on your facilitating in class
- 1.3 Read the introduction, lesson description and the purpose of lesson 6 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

#### E.g., **LSI:**

Student teachers will explore Authentication types under Access control fundamentals. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

#### LM & PCM:

Student teachers will be exposed to how to configure and install software on a computer system. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

# **Distinctive Aspect**1.4. Write any 1 distinctive aspect of the

	distinctive aspects of the	lesson for discussion.	
	distinctive aspects of the		
	lesson for group	i.e.	
	discussion. i.e.		
	LSI:	LSI:	
	Logical Controls	Logical Controls	
	LM & PCM:	LM & PCM:	
	Maintenance Scheduling	Maintenance Scheduling	
	1.4.1 Ask tutors to share	1.4.1 Share your	
	their responses with a	responses with a	
	colleague.	colleague.	
As this course is dealing	1.5 Ask tutors to	1.5 Remind student	
with supporting and or	i. Remind student	teacher to use the ideas	
assessing the	teacher to use the ideas	generated to prepare a	
Professional Teaching	generated to prepare a	template for building a	
Portfolio Development or	template for building a	professional teaching	
<u>-</u>			
the Classroom Enquiry	professional teaching	portfolio.	
and Action Research	portfolio.	" Basiladika da dad	
Project Report writing,	ii. Remind the student	ii. Remind the student	
tutors need to be	teacher to observe the	teacher to observe the	
provided with guidance	entire class during	entire class during	
on what to do including	lesson deliveries and	lesson deliveries and	
organisation of Post	closely take note of	closely take note of	
Internship Seminar.	learners with special	learners with special	
	learning needs using	learning needs using	
	observation guide they	observation guide they	
	have designed.	have designed.	
For each session	1.6 Encourage student	1.6 Encourage student	
remember this is the final	teachers to make a	teacher to make a	
semester before Students	recording of a lesson	recording of a lesson	
begin teaching provide	they deliver with the	they deliver with the	
prompts to help support	help of ICT tools (e.g.,	help of ICT tools (e.g.,	
this transition for	your phone, a video	your phone, a video	
planning and give regard	camera, an audio tape	camera, an audio tape	
for GESI, CCI, ICT etc.	recorder).	recorder).	
2 Concept Development	Concept Development	Concept Development	15
(New learning likely to	2.1 Ask tutors to list and	2.1 List and share with	mins
arise in lesson/s):	share with an opposite	an opposite gender (if	
<ul><li>Identification and</li></ul>	gender (if applicable),	applicable), the major	
discussion of new	the major concepts in	concepts in the lesson.	
learning, potential	the lesson.	231100pto 111 tile 16350111	
barriers to learning for	E.g.,	Fσ	
student teachers or	LSI:	E.g., <b>LSI</b> :	
students, new	Logical Controls	Logical Controls	
concepts or pedagogy			

being introduced in the lesson, which need to be explored with the SL/HoD

NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.

#### LM & PCM:

Maintenance
2.2 Ask tutors to write 2
possible challenges/
misconceptions in
teaching the concept
above for discussion.

E.g., Some student teachers may have very limited skill and experience using a computer.

2.3 Ask tutors to identify some appropriate teaching strategies that can be used to best explain the new concepts identified. *E.g.,* **Practical Work**: Tutor guides student teachers to perform each task on a computer system.

#### LM & PCM:

Maintenance
2.2 Write two (2)
possible challenges/
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E.g., Some student teachers may have very limited skill and experience using a computer

2.3 Identify some appropriate teaching strategies that can be used to best explain the new concepts identified. *E.g.,* **Practical Work**: Tutor guides student teachers to perform each task on a computer system.

# 3. Planning for teaching, learning and assessment activities for the lesson/s

- Reading and discussion of the teaching and learning activities
- Noting, addressing, and explaining areas where tutors may require clarification
- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills
- Reading, discussion, and identification of continuous

# Planning for teaching, learning and assessment activities 3.1 Ask tutors to read the teaching and learning activities of

lesson 7 from the course

#### LSI:

manual. E.g.,

Tutor uses an interactive lecturette to explain Logical controls and leads a discussion on Logical controls.

#### LM & PCM:

Tutor/lecturer uses questions to initiate discussion on what maintenance is. Tutor

# Planning for teaching, learning and assessment activities

3.1 Read the teaching and learning activities of lesson 7 from the course manual. E.g.,

#### LSI:

Tutor uses an interactive lecturette to explain Logical controls and leads a discussion on Logical controls.

#### LM & PCM:

Tutor/lecturer uses questions to initiate discussion on what maintenance is. Tutor

40 mins

- assessment
  opportunities in the
  lesson. Each lesson
  should include at least
  two opportunities to
  use continuous
  assessment to support
  student teacher
  learning, subject
  specific examples
  should be provided for
  SL/HoD
- Resources: links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, YouTube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
- Tutors should be expected to have a plan for the next lesson for student teachers

guides student teachers. (PDP Theme 2).

- 3.2 Ask tutors to identify any aspect that needs clarification.
- 3.3 In groups of at least two 2 if applicable, lead tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of lesson 7 from the course manuals. e.g.,

#### LSI:

Student teacher watches video and uses it to answer questions on types of Information security controls.

#### LM & PCM:

Student teachers watch videos to build an understanding of Computer maintenance and optimisation I.

- 3.3 Ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed in the lesson. E.g., Body language does not exclude girls or shows preferential treatment to boys
- 3.5 Ask tutors to read the assessment activities in the course manuals and identify areas that

guides student teachers. (PDP Theme 2).

- 3.2 Identify any aspect that needs clarification.
- 3.3 In groups of at least two 2 if applicable, discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of lesson 7 from the course manuals. e.g.,

#### LSI:

Student teacher watches video and uses it to answer questions on types of Information security controls.

#### LM & PCM:

Student teachers watch videos to build an understanding of Computer maintenance and optimisation I.

- 3.3 Discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed in the lesson.
- E.g., Body language does not exclude girls or shows preferential treatment to boys
- 3.5 Read the assessment activities in the course manual and

	require clarification.	identify areas that	
	E.g.,	require clarification.	
	LSI:	E.g.	
	Student teachers write	LSI:	
	short notes with	Student teachers write	
	examples of the	short notes with	
	following under logical	examples of the	
	controls i.e.,	following under logical	
	Traditional Firewalls,	controls i.e.,	
	Packet-Filtering	Traditional Firewalls,	
	Techniques, Application	Packet-Filtering	
	Proxies, Network	Techniques, Application	
	Address Translation,	Proxies, Network	
	Port Address Translation	Address Translation,	
	Torendaress translation	Port Address Translation	
		TOTE Addices Translation	
	LM & PCM:	LM & PCM:	
	Students produce a	Students produce a	
	maintenance plan for a	maintenance plan for a	
	school computer	school computer	
	laboratory Students	laboratory Students	
	write reflective notes on	write reflective notes on	
	maintaining school	maintaining school	
	computer laboratories.	computer laboratories.	
	3.6. Ask tutors to	3.6. Identify other	
	identify other inclusive	inclusive resources for	
	resources for teaching	teaching and learning of	
	and learning of the	the concepts in both	
	concepts in both CoE	CoE and basic school	
	and basic school	classroom.	
	classroom.	E.g., Images/ videos,	
	E.g., Images/ videos,	Projectors and	
	Projectors and	computers	
	computers	Compaters	
	3.7 Ask tutors to have	3.7 Have plans for	
	plans for teaching the	teaching the next topic.	
	next topic.		
4. Evaluation and review	Evaluation and review	Evaluation and review	15
of session:	of session	of session	mins
Tutors should	4.1. Ask tutors to	4.1. Identify any	
Identifying critical	individually identify any	outstanding issues	
friends to observe	outstanding issues	relating to lesson 7 to	
lessons and report at	relating to lesson 7 to be	be addressed.	
next session	addressed.		

<b>&gt;</b>	Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.2. Ask tutors to identify a critical friend to observe the PD session and report on observations during the next PD session.	4.2. Identify a critical friend to observe the PD session and report on observations during the next PD session.	
		4.3. Ask tutors to read lesson 8 from the PD manual and find its relevant materiaals for the next session.	4.3. Read lesson 8 from the PD manual and find its relevant materials for the next session.	

Tutor PD Session				
Age Levels/s: Year 4	1. Laboratory Management Topic: Computer maintena 2. Legal and Security Issue			
	Tutor PD Session for L	esson 8		
Focus: the bullet point provide the frame for what is to be done in the session. The SWL should use the bullet to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addresse and specific reference should be made to the	Leading the session.  What the SL/HoDs will have to say during each stage of the session  d	Guidance Notes on Tutor Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	Time in session	
course manual/s.  1 Introduction to the	Introduction to the	Introduction to the	20 mins	
session	session	session		
<ul> <li>Review prior learning</li> <li>A critical friend to share findings for short discussion a lessons learned</li> <li>Reading and discussion of the introductory sections of the lesson up to and</li> </ul>	•	Start with an icebreaker 1.1 Discuss the previous lessons on systems boards, processors and memory to recap knowledge gained from previous PD Session (Lesson 7) and state how useful it was on the lesson taught.		
including learning outcomes and indicators  Overview of conte and identification any distinctive aspects of the lesson/s,  NB The guidance for SL/HoD should identification	Types of Information security controls (Logical Controls) I of LM & PCM Computer maintenance and optimisation I	LSI Types of Information security controls (Logical Controls) I  LM & PCM Computer maintenance and optimisation I		

	<u></u>		
address and provide	1.2 Invite the critical	1.2 As a critical friend	
explanations for any	friend who observed	who observed Lesson 7,	
areas where tutors	Lesson 7 to share their	share your experiences	
might require	experiences and the	and the impact on your	
clarification on an	impacts on their	facilitating in class	
aspect of the lesson.	facilitating in class.		
SL/HoD take feedback	_		
to gauge understanding	1.3 Ask tutors to read	1.3 Read the introduction,	
and support tutor	the introduction, lesson	lesson description and the	
engagement.	description and the	purpose of lesson 8 in the	
NB SL/HoD should ask	purpose of lesson 8 in	course manual and	
tutors to plan for their	the course manual and	indicate how they are	
teaching as they go	indicate how they are	related to student	
through the PD session	related to student	teachers' relevant	
through the 1D session	teachers' relevant	previous knowledge.	
	previous knowledge.	previous knowledge.	
	previous knowledge.		
	Refer tutors to the	Refer to the course	
	course manual	manual	
	course manuar	manaar	
	Distinctive Aspect	Distinctive Aspect	
	1.4. Ask tutors to be in	1.4 In groups of two	
	groups of two (where	(where applicable)	
	applicable) and identify	identify the distinctive	
	the distinctive aspects of	aspects of the lesson 8	
	the lesson 8 from the	from the course manuals	
	course manuals for	for discussion. E.g.,	
	discussion. E.g.,	Tor discussion. E.g.,	
	discussion. L.g.,		
	LSI - Information	LSI - Information	
	security controls II	security controls II	
	Physical controls	Physical controls	
	administrative controls	administrative controls	
	(ICT policies and	(ICT policies and	
	administrative processes	administrative processes	
	& procedures)	& procedures)	
	a procedures,	a procedures)	
	LM & PCM – Computer	LM & PCM – Computer	
	maintenance and	maintenance and	
	optimisation II	optimisation II	
	Common maintenance	Common maintenance	
	activities.	activities	
As this course is dealing	1.5 Discuss with tutors	1.5 Discuss with tutors	
with supporting and/or	the development of	the development of	
assessing the	components of the PTP	components of the PTP	
Professional Teaching	and Classroom Enquiry	and Classroom Enquiry	

		T	1
Portfolio Development	and Action Research	and Action Research	
and/or the Classroom	report writing by the	report writing by the	
Enquiry and Action	student teachers. E.g.,	student teachers. E.g.,	
Research Project	i. Keeping lesson	i. Keeping lesson	
Report writing, tutors	evaluations from whole	evaluations from whole	
should be provided	class teaching	class teaching	
with guidance on what	ii. Keeping a list of the	ii. Keeping a list of the	
to do including	challenges encountered	challenges encountered in	
organisation of Post	in implementation of	implementation of	
Internship Seminar.	interventions of	interventions of	
•	researches they do.	researches they do.	
For each session	1.6. Ask tutors to be in	1.6. Ask tutors to be in	
remember this is the	pairs and identify ways	pairs and identify ways by	
final semester before	by which student	which student teachers	
Students begin	teachers can integrate	can integrate ICT, GESI	
teaching provide	ICT, GESI and CCI into	and CCI into their	
prompts to help	their teaching and	teaching and learning in	
support this transition	learning in the	the classroom.	
for planning and give	classroom.	the classicom.	
regard for GESI, CCI, ICT	Classicoiii.		
etc.	e.g.,	e.g.,	
	a. the use of PowerPoint	a. the use of PowerPoint	
	software to deliver	software to deliver	
	lessons	lessons	
	b. Promoting creativity	b. Promoting creativity	
	like troubleshooting a	like troubleshooting a PC.	
	PC.	c. Delegating roles to	
	c. Delegating roles to	females and males	
	females and males	equally. (NTS 1c)	
	equally. (NTS 1c)		_
2 Concept	Concept Development	Concept Development	15 mins
Development (New	2.1 Ask tutors to write at	2.1 Write at least a major	
learning likely to arise	least a major concept in	concept in the lesson	
in lesson/s):	the lesson from the	from the course manuals	
Identification and	course manuals and	and share with the whole	
discussion of new	share with the whole	group e.g.,	
learning, potential	group e.g.,		
barriers to learning			
for student teachers	LSI	LSI	
or students, new	Information security	Information security	
concepts or	controls II	controls II	
pedagogy being			
introduced in the	LM & PCM –	LM & PCM –	
lesson, which need	Computer maintenance	Computer maintenance	
to be explored with	and optimisation II	and optimisation II	
the SL/HoD			

and explaining areas	large discussion.	and or oak anogonom	
<ul><li>Noting, addressing,</li></ul>	individually for group	large group discussion.	
activities	from the course manual	manual individually for	
learning	outlined in the lesson	lesson from the course	
teaching and	learning activities	activities outlined in the	
discussion of the	through the teaching and	teaching and learning	
Reading and	3.1. Ask Tutors to read	3.1. Read through the	
for the lesson/s	activities	activities	
learning and assessment activities	learning and assessment activities	learning and assessment activities	
3.Planning for teaching,	Planning for teaching,	Planning for teaching,	40 mins
2 Diameter Cont.	other's perspectives.	other's perspectives.	40
	them learn from each	them learn from each	
	another which can help	another which can help	
	students to talk to one	students to talk to one	
	competition, requires	competition, requires	
	together rather than in	together rather than in	
	having students work	having students work	
	Cooperative learning:	Cooperative learning:	
	E.g.,	E.g.,	
		10.011.1100	
	identified	identified	
	explain the new concepts	the new concepts	
	can be employed to best	employed to best explain	
	teaching strategies that	strategies that can be	
	the most appropriate	appropriate teaching	
	2.3 Ask tutors to identify	2.3 Identify the most	
	computers	computers	
	basic skills in maintaining	basic skills in maintaining	
	may not have enough	may not have enough	
	Some student teachers	Some student teachers	
	LM & PCM	LM & PCM	
	information security	information security	
	understanding of	understanding of	
	knowledge and	knowledge and	
engagement.	might not have had	might not have had	
support tutor	Some student teachers	Some student teachers	
understanding and	LSI	LSI	
feedback to gauge	E.g.,	E.g.,	
they should take	above.	above.	
introduce and explain the issues/s with tutors,	barriers with respect to the concepts listed 2.1	the concepts listed 2.1 above.	
what they need to do to	misconceptions and	barriers with respect to	
SL/HoD should set out	the potential	misconceptions and	
NB The guidance for	2.2 Ask tutors to discuss	2.2 Discuss the potential	
NR The guidance for	2.2 Ask tutors to discuss	2.2 Discuss the notantial	

- where tutors may require clarification
- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating: GESI responsiveness and ICT and 21st C skills
- Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning, subject specific examples should be provided for SL/HoD
- Resources: links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability.
- Tutors should be expected to have a plan for the next lesson for student teachers

#### E.g., **LSI**

watch short videos from YouTube, on Physical controls and administrative controls.

#### LM & PCM

Watch video tutorial on how to perform various maintenance tasks (blowing, updating system and application utilities, optimisation.

3.2 Ask tutors to watch a video on:

#### LSI

Physical controls and administrative controls <a href="https://youtu.be/NLzgcD">https://youtu.be/NLzgcD</a> <a href="https://youtu.be/NLzgcD">X6rkE</a>

#### LM & PCM

Maintenance tasks (blowing, updating system and application utilities, optimization <a href="https://youtu.be/J07rd4">https://youtu.be/J07rd4</a> <a href="https://youtu.be/J07rd4">nMXeo</a>

- 3.2.1 Ask tutors to discuss their findings with the larger group
- 3.3 Ask Tutors to note areas that require clarification and/or contribution. *E.g.*,

#### LSI

The difference between Physical controls and administrative controls

# E.g.,

#### LSI

watch short videos from YouTube, on Physical controls and administrative controls.

#### LM & PCM

Watch video tutorial on how to perform various maintenance tasks (blowing, updating system and application utilities, optimisation

3.2 Watch a video on:

#### LSI

Physical controls and administrative controls <a href="https://youtu.be/NLzgcDX">https://youtu.be/NLzgcDX</a>
6rkE

#### LM & PCM

Maintenance tasks (blowing, updating system and application utilities, optimization <a href="https://youtu.be/J07rd4n">https://youtu.be/J07rd4n</a> MXeo

- 3.2.1 Discuss your findings with the larger group
- 3.3 Note areas that require clarification and/or contribution. *E.g.,*

#### LSI

The difference between Physical controls and administrative controls

#### LM & PCM

The difference between blowing, updating system and application utilities, optimization

3.4. Lead tutors to discuss in groups how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for the lesson.

E.g., Tutor tasks Student teachers to individually make reflective notes on the computer maintenance so as to reference it when the need arises

3.5 Using think-pairshare, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.

E.g., both genders taking turns in leading roles and Inclusivity.

3.6 Ask tutors to identify any 21<sup>st</sup> century skills that can be developed or applied in the lesson and how they can help student teachers to support basic school leaners to develop these skills.

E.g., The use of PowerPoint,

#### LM & PCM

The difference between blowing, updating system and application utilities, optimization

3.4. Discuss in groups how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for the lesson.

E.g., Tutor tasks Student teachers to individually make reflective notes on the computer maintenance so as to reference it when the need arises

3.5 Using think-pairshare, discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.

E.g., both genders taking turns in leading roles and Inclusivity.

3.6 identify any 21<sup>st</sup> century skills that can be developed or applied in the lesson and how they can help student teachers to support basic school leaners to develop these skills.

E.g., The use of PowerPoint, smartphones

smartphones to prepare and present lessons.	to prepare and present lessons.	
3.7 Ask tutors to read and discuss the assessment activities in the manual and identify areas in the lesson that can be used for assessment especially on NTEAP related activities.	3.7 Read and discuss the assessment activities in the manual and identify areas in the lesson that can be used for assessment especially on NTEAP related activities.	
E.g., Discuss in groups the Physical controls and administrative controls using group presentations	E.g., Discuss in groups the Physical controls and administrative controls using group presentations	
NB: Remind tutors to focus on subject project and the subject portfolio of NTEAP document.	NB: Remind tutors to focus on subject project and the subject portfolio of NTEAP document.	
3.8 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school classroom. <i>E.g.</i> ,	3.8 List the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school classroom. <i>E.g.</i> ,	
YouTube Video, Coursera, Projector, Laptop (PC)	YouTube Video, Coursera, Projector, Laptop (PC)	
3.9. Ask tutors to brainstorm a plan that will be appropriate for the next lesson:	3.9. Brainstorm a plan that will be appropriate for the next lesson:	
Information security controls (Physical & Administrative Controls) II	Information security controls (Physical & Administrative Controls) II	

LM & PCM

LM & PCM

		10	I a	1
		Computer maintenance	Computer maintenance	
		and optimization II	and optimization II	
		Remind Tutors to have a	Remind Tutors to have a	
		concrete plan for	concrete plan for teaching	
		teaching the next lesson	the next lesson for	
		for student teachers	student teachers	
4.	Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
rev	view of session:	session	session	
>	Tutors should	4.1. Individually, let	4.1. Identify any	
	Identifying critical	tutors identify any	outstanding issues	
	friends to observe	outstanding	relating to the lesson for	
	lessons and report	issues relating to the	clarification	
	at next session	lesson for clarification		
>	Identifying and			
	addressing any	4.2 Ask tutors to identify	4.2 Identify a critical	
	outstanding issues	a critical friend to sit in	friend to sit in your class	
	relating to the	their class during lesson	during lesson and report	
	lesson/s for	and report on	on observation during the	
	clarification	observation during the	next PD session	
		next PD session		
		4.3 Ask tutors to read	4.3 Read lesson 9 from	
		lesson 9 from the PD	the PD manual and find	
		manual and find relevant	relevant materials for the	
		materials for the next	next session.	
		session.	TIERE SESSION.	
		30331011.		

	Tutor PD Session			
Age Level: JHS  Year 4  Tutor PD Session for Lesson 9 in the session 9 in the session for Lesson 9 in the session 1 in		Name of Subject/s:  1. Laboratory Management and PC maintenance (LM & PCM)  Topic: Computer maintenance and optimisation III  2. Legal and Security Issues in ICT (LSI)  Topic: Legal issues (Introduction, Child & Data protection) I  Semester 2		
Focus: the bullet	Guidance notes on Leading	Guidance Notes on Tutor	Time in	
points provide the frame for what is to be done in the session. The SWL should use the bullets to guide what they write for the SL/HoD and tutors to do and say during each session. Each bullet needs to be addressed and specific reference should be made to the course manual/s.	the session. What the SL/HoDs will have to say during each stage of the session	Activity during the PD Session. What PD Session participants (Tutors) will do during each stage of the session.	session	
1 Introduction to the session  Review prior learning  Reading and discussion of the introductory sections of the lesson up to and including learning outcomes and indicators	1.1 Ask tutors to write down one thing they learnt in the previous PD lesson (lesson 8) and give some reflections as to how useful it was on the lessons taught. i.e.,  LM & PCM Computer maintenance and optimisation II	1.1 Write down one thing you learnt in the previous PD lesson (lesson 8) and give some reflections as to how useful it was on the lessons taught. i.e.,  LM & PCM Computer maintenance and optimisation II	20 mins	

Overview of content and identification of any distinctive aspects of the lesson/s,

NB The guidance for SL/HoD should identify, address and provide explanations for any areas where tutors might require clarification on an aspect of the lesson.

NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

#### LSI

Information security controls (Physical & Administrative Controls) II

- 1.2 Invite the critical friend who observed the Lesson 8 to share their experience and the impacts on their facilitating in class.
- 1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 9 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

E.g.,

#### LM & PCM

The purpose of this lesson is to introduce student teachers to a presentation application.

# LSI

In this lesson, student teachers will be introduced to legal issues (Child and Data protection).

#### **Distinctive Aspects**

1.4. Ask tutors to be in smaller groups and i. identifies the distinctive aspects of the lesson. e.g.,

#### LM & PCM

MBR corruption, Boot sector corruption, System file corruption

# LSI

Data protection Laws

#### LSI

Information security controls (Physical & Administrative Controls) II

- 1.2 As a critical friend who observed Lesson 8, share your experiences and the impact on your facilitating in class
- 1.3 Read the introduction, lesson description and the purpose of lesson 9 in the course manual and indicate how they are related to student teachers' relevant previous knowledge.

E.g.,

#### LM & PCM

The purpose of this lesson is to introduce student teachers to a presentation application.

#### LSI

In this lesson, student teachers will be introduced to legal issues (Child and Data protection).

#### **Distinctive Aspects**

1.4. Be in smaller groups and i. identifies the distinctive aspects of the lesson. e.g.,

#### LM & PCM

MBR corruption, Boot sector corruption, System file corruption

ii. Identify areas that need further clarification in the lesson. E.g.,

#### LM & PCM

Crashes or hangs

#### LSI

Cyberspace Privacy
NB: Remind tutors to plan
for their teaching as they go
through the PD session.
E.g., using Tutor-led
discussion, self-prepared
videos or from YouTube
video to aid the lesson.

#### LSI

Data protection Laws ii. Identify areas that need further clarification in the lesson. E.g.,

#### LM & PCM

Crashes or hangs

#### LSI

Cyberspace Privacy
NB: Remember to plan for
their teaching as you go
through the PD session. E.g.,
using Tutor-led discussion,
self-prepared videos or from
YouTube video to aid the
lesson.

As this course is dealing with supporting and or assessing the **Professional** Teaching Portfolio **Development or** the Classroom **Enquiry** and **Action Research Project Report** writing, tutors should be provided with guidance on what to do includina organisation of Post Intern Seminar.

- 1.5 Discuss with tutors the development of components of the PTP and Classroom Enquiry and Action Research report writing by the student teachers. E.g.,
- a. Asking student teachers to provide reports from observation on learners' needs compiled in a developing professional teaching portfolio.
- b. Discussing with the student teacher additional beliefs, values and understandings regarding teaching and learning that could result in a change in a personal teaching philosophy.

Refer to STS Year Three School Placement Handbook. pg. 161.

- 1.5 Discuss with your colleagues the development of components of the PTP and Classroom Enquiry and Action Research report writing by the student teachers. E.g.,
- a. Asking student teachers to provide reports from observation on learners' needs compiled in a developing professional teaching portfolio.
- b. Discussing with the student teacher additional beliefs, values and understandings regarding teaching and learning that could result in a change in a personal teaching philosophy.

Refer to STS Year Three School Placement Handbook. pg. 161.

For each session	1.6 Ask tutors to identify	1.6 Identify some ways by	
remember this is	some ways by which	which student teachers can	
the final semester	student teachers can	integrate ICT, GESI and CCI	
before Students	integrate ICT, GESI and CCI	into your teaching and	
start teaching	into their teaching and	learning.	
provide prompts	learning.	e.g.,	
to help support	e.g.,	a. Creating videos from	
this transition for	a. Creating videos from	activities performed with	
planning and give	activities performed with	learners,	
regard for GESI,	learners,	b. Supporting the student	
CCI, ICT etc	b. Supporting the student	teacher to review their	
	teacher to review their	previous knowledge on SEN.	
	previous knowledge on		
	SEN.		
2 Concept	Concept Development	Concept Development	15 mins
Development	2.1 Ask tutors to identify	2.1 Identify the concepts in	
(New learning	the concepts in lesson 9 of	lesson 9 of the course	
likely to arise in	the course manuals for	manual for discussion.	
lesson/s):	discussion.		
Identification	i.e.,	l.e.,	
and discussion	LSI	LSI	
of new	Cyberspace Privacy Laws	Cyberspace Privacy Laws and	
learning,	and Issues, and Child	Issues, and Child Protection	
potential	Protection Laws	Laws	
barriers to			
learning for	LM & PCM	LM & PCM	
student	Boot process issues, System	Boot process issues, System	
teachers or	file corruption, Crashes or	file corruption, Crashes or	
students, new	hangs, Driver or service	hangs, Driver or service	
concepts or	start-up failure	start-up failure	
pedagogy			
being	2.2 Ask tutors to write a	2.2 Write a possible barrier	
introduced in	possible barrier in learning	in learning the concepts	
the lesson,	the concepts (Cyberspace	(Cyberspace Privacy Laws	
which need to	Privacy Laws and Issues/	and Issues/ Managing and	
be explored	Managing and Supporting	Supporting basic operating	
with the	basic operating systems	systems problems) identified	
SL/HoD	problems) identified above	above for discussion. E.g.,	
NB The guidance	for discussion. E.g.,		
for SL/HoD should			
set out what they	LSI	LSI	
need to do to	Some student teachers	Some student teachers might	
introduce and	might not have had	not have had knowledge and	
explain the	knowledge and	understanding of Legal	
issues/s with	understanding of Legal	Issues.	
tutors	Issues.		

#### LM & PCM

Some student teachers may have very limited skills and practice time using a computer.

2.3 Ask tutors to identify appropriate teaching strategies that can best explain the new concepts identified.

E.g., Scaffolding: Providing support to students while they cannot complete a task alone. Then, when the student can complete the task alone, the teacher withdraws their support.

#### LM & PCM

Some student teachers may have very limited skills and practice time using a computer.

2.3 Identify appropriate teaching strategies that can best explain the new concepts identified.

E.g., Scaffolding: Providing support to students while they cannot complete a task alone. Then, when the student can complete the task alone, the teacher withdraws their support.

# 3.Planning for teaching, learning and assessment activities for the lesson/s

- Reading and discussion of the teaching and learning activities
- Noting, addressing, and explaining areas where tutors may require clarification
- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating:GESI

# Planning for teaching, learning and assessment activities

3.1. Ask Tutors to individually read through the teaching and learning activities outlined in lesson 9 of the course manuals for group discussion. e.g.,

#### LSI

Tutor guides student teachers to discuss Data protection laws (data protection Act 843).

# LM & PCM

Tutor shows a video tutorial on various operating system problems including boot process issues, Driver or service start-up failure and Logon problems.

3.2 Ask tutors to watch the YouTube videos with the links below

# Planning for teaching, learning and assessment activities

3.1. Read through the teaching and learning activities outlined in lesson 9 of the course manuals for group discussion. e.g.,

#### LSI

Tutor guides student teachers to discuss Data protection laws (data protection Act 843).

# LM & PCM

Tutor shows a video tutorial on various operating system problems including boot process issues, Driver or service start-up failure and Logon problems.

3.2 Watch the YouTube video with the link below

responsiveness and ICT and 21st C skills

- Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning
- > Resources: o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Youtube, physical resources, power point; how they should be used. Consideration needs to be given to local availability guidance on

any power

LSI - General Data **Protection Regulation** https://youtu.be/acijNEErf-

LM &PCM - Optimization https://youtu.be/Q2dewZw eAtU

- 3.2.1 Ask Tutors to discuss the video they have watched in comparison with the learning activities outlined in lesson 9 of the course manuals.
- 3.3 Ask Tutors to note areas that require clarification and/or contribution. E.g.,

#### LSI

Cyberspace Privacy Laws

#### LM & PCM

Start-up failure and Logon problems.

3.3. Ask tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 9.

# E.g., LSI

Student teachers share their views on Data protection laws (data protection Act 843). Student teachers do group presentations for whole class discussions.

LSI - General Data **Protection Regulation** https://youtu.be/acijNEErf-c

LM &PCM - Optimization https://youtu.be/Q2dewZwe <u>AtU</u>

- 3.2.1 Discuss with your colleagues the video you have watched in comparison with the learning activities outlined in lesson 6 of the course manuals.
- 3.3 Note areas that require clarification and/or contribution. E.g.,

#### LSI

Cyberspace Privacy Laws

#### LM & PCM

Start-up failure and Logon problems.

3.3. Discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 9.

# E.g., LSI

Student teachers share their views on Data protection laws (data protection Act 843). Student teachers do group presentations for whole class discussions.

point
presentations,
TLM or other
resources
which need to
be developed
to support
learning

Tutors should be expected to have a plan for the next lesson for student teachers

#### LM &PCM

Student teachers individually make reflective notes on operating system problems.

3.4. In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.

E.g.,

Being patient with females and males who may be shy or afraid to speak.

3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment in alignment with NTEAP related activities. E.g.,

#### LSI

Student teacher reviews Data protection laws (data protection Act 843).

#### LM &PCM

Student teacher produce reflective notes on "Boot sector corruption as well as System file corruption and their fixes.

#### Note

Ask tutors to encourage student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work).

#### LM &PCM

Student teachers individually make reflective notes on operating system problems

3.4. In pairs or small groups, discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed. E g., Being patient with females

Being patient with females and males who may be shy or afraid to speak.

3.5 Read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment in alignment with NTEAP related activities. E.g.,

#### LSI

Student teacher reviews Data protection laws (data protection Act 843).

#### LM &PCM

Student teacher produce reflective notes on "Boot sector corruption as well as System file corruption and their fixes.

#### Note

Encourage student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work).

	T		1
	3.6 Ask tutors to list the	3.6 List the needed inclusive	
	needed inclusive resources	resources for the teaching	
	for the teaching and	and learning of the concepts	
	learning of the concepts	identified in both CoE and	
	identified in both CoE and	basic school curriculum.	
	basic school curriculum.		
	E.g., Access to the Internet,	E.g., Access to the Internet, a	
		=	
	a personal Computer,	personal Computer,	
	Instructional Laboratories	Instructional Laboratories as	
	as well as Videos	well as Videos	
	Make sure the resources are	Make sure the resources are	
	enough and appropriate to	enough and appropriate to	
	all learners (especially	all learners (especially	
	people with SEN).	people with SEN).	
	people with SENJ.	people with servy.	
	3.7 Ask tutors to brainstorm	3.7 Brainstorm a plan that	
	a plan that will be	will be appropriate for the	
	appropriate for the next	next lesson:	
	lesson:		
	LSI	LSI	
	Legal issues (Introduction,	Legal issues (Introduction,	
	Child & Data protection) I	Child & Data protection) I	
	LM &PCM	LM &PCM	
	Computer maintenance and	Computer maintenance and	
	optimisation III	optimisation III	
4. Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
review of session:	session	session	15 111113
a. Tutors need to			
	4.1 Ask tutors to identify a	4.1 Identify a critical friend	
identify critical	critical friend to sit in their	to sit in your class during	
friends to observe	class during lesson and	lesson and report on	
lessons and report	report on observation	observation during the next	
at next session	during the next PD session.	PD session.	
b. Identifying and			
addressing any	4.2 Ask tutors to identify	4.2 Identify any outstanding	
outstanding issues	any outstanding issues	issues relating to lesson 9	
relating to the	relating to lesson 9 from	from the course manual for	
lesson/s for	the course manual for	clarification	
clarification	clarification		
	4.3 Remind tutors to read	4.3 Read lesson 10 from the	
	lesson 10 from the PD	PD manual and find relevant	
	manual and find relevant	materials for the next	
	I materials for the next	LCACCION	1
	materials for the next session.	session.	

	Tutor PD Session				
Ag	e Level: JHS	Name of Subject/s:			
		· · · · · · · · · · · · · · · · · · ·	<ol> <li>Laboratory Management and PC maintenance (LM &amp;</li> </ol>		
		PCM)	0 (; ; )		
		-	cory Configuration and Manage	ement I	
		_	urity Issues in ICT <b>(LSI)</b>	ns\ II	
		Topic: Legal is	sues (Electronic Communicatio	ns) II	
Yea	ar 4		Semester 2		
		Tutor PD Session for	Lesson 10		
Foo	cus: the bullet	Guidance notes on	Guidance Notes on Tutor	Time in	
poi	ints provide the	Leading the session. What	Activity during the PD	session	
fra	me for what is to	the SL/HoDs will have to	Session. What PD Session		
be	done in the	say during each stage of	participants (Tutors) will do		
	ssion. The SWL	the session	during each stage of the		
	ould use the		session.		
	llets to guide				
	at they write for				
	SL/HoD and				
	ors to do and say				
	ring each session.				
	addressed and				
	ecific reference				
-	ould be made to				
	course				
	nual/s.				
1 lı	ntroduction to	Introduction to the lesson	Introduction to the lesson	20 mins	
the	esession	1.1 Ask tutors to write any	1.1 Write any new thing		
	Review prior	new thing they learnt in	you learnt in the last PD		
	learning	their last PD session on	session on lesson 9.		
	A critical friend	lesson 9.			
	to share findings				
	for a short	LSI:	LSI:		
	discussion and	Legal issues (Introduction,	Legal issues (Introduction,		
_	lessons learned	Child & Data protection) I	Child & Data protection) I		
	Reading and	INA O DONA:	INA 9 DCN4.		
	discussion of the	LM & PCM:	LM & PCM:		
	introductory sections of the	Computer maintenance and optimisation III	Computer maintenance and optimisation III		
	lesson up to and	and optimisation in			
	including	1.2 Invite the tutor who	1.2 As a critical friend who		
	learning	observed Lesson 9 to share	observed Lesson 9, share		
	outcomes and	their experiences to the	your experiences and the		
	indicators	group.	,p =		

Overview of content and identification of any distinctive aspects of the lesson/s,

NB The guidance for SL/HoD should identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

1.3 Ask tutors to:

i. Read the introductory sections of lesson 10 up to the learning outcomes and their corresponding indicators individually and then discuss in pairs (mixed pairs where applicable).

E.g.,

#### LM & PCM

**LO** - Install, configure/customize system and application software.

**LI** - Install and configure operating systems & device drivers

#### LSI

LO - Demonstrate compliance of statutory, regulatory and institutional ICT requirements. (NTS 2b, 2c, 3b, 3c, 3d, 3e, 3h, 3i, 3k, 3n, 3p NTECF: Pillars 1, 2 & 3, crosscutting issues; Core skills, Assessment, Professional values and attitudes)

**LI** - Explain the legal issues and implications associated with use of ICT.

1.4 Ask tutors to
i. Write down one
distinctive aspects of the
lessons from the course
manual. e.g.,

#### LM & PCM

Electronic communication Law.

impact on your facilitating in class

1.3 Read the introductory sections of lesson 10 up to the learning outcomes and their corresponding indicators individually and then discuss in pairs (mixed pairs where applicable). *E.g.*,

#### LM & PCM

LO - Install, configure/customize system and application software. LI - Install and configure operating systems & device drivers

#### LSI

LO - Demonstrate compliance of statutory, regulatory and institutional ICT requirements. (NTS 2b, 2c, 3b, 3c, 3d, 3e, 3h, 3i, 3k, 3n, 3p NTECF: Pillars 1, 2 & 3, crosscutting issues; Core skills, Assessment, Professional values and attitudes)

**LI** - Explain the legal issues and implications associated with use of ICT.

#### 1.4

i. Write down one distinctive aspects of the lessons from the course manual. e.g.,

#### LM & PCM

Electronic communication Law.

	LSI	LSI
	Laboratory configurations	Laboratory configurations
	for teaching and learning.	for teaching and learning.
	ii. Identify areas that need	ii. Identify areas that need
	further clarification in the	further clarification in the
	lesson. E.g.,	lesson. E.g.,
	NB: Remind tutors to plan	NB: Remind tutors to plan
	for their teaching as they	for their teaching as they go
	go through the PD session.	through the PD session.
	E.g., using Tutor-led	E.g., using Tutor-led
	discussion, self-prepared	discussion, self-prepared
	videos or from YouTube	videos or from YouTube
	video to aid the lesson.	video to aid the lesson.
If this course is	1.5 Take a lead role and	1.5 Discuss with your
dealing with	discuss with tutors the	colleagues the
supporting and or	development of	development of
assessing the	components of the PTP	components of the PTP and
Professional	and Classroom Enquiry and	Classroom Enquiry and
Teaching Portfolio	Action Research report	Action Research report
Development or the	writing by the student	writing by the student
Action Research	teachers. E.g.,	teachers. E.g.,
Project Report	,	, , , , , , , , , , , , , , , , , , ,
writing. Tutors need	i. Proposing interventions	i. Proposing interventions
to be provided with	for problems identified in	for problems identified in
guidance on what	the classroom.	the classroom.
to do including	ii. Reporting (listing)	ii. Reporting (listing)
organisation of Post	activities that achieve	activities that achieve
Internship Seminar.	specific standards on the	specific standards on the
	NTS.	NTS.
For each session	1.6 Ask tutors to identify	1.6 Identify some ways by
remember this is	some ways by which	which student teachers can
the final semester	student teachers can	integrate ICT, GESI and CCI
before Students	integrate ICT, GESI and CCI	into their teaching and
begin teaching	into their teaching and	learning.
provide prompts to	learning.	
help support this	e.g.,	e.g.,
transition for	i. Giving	i. Giving
planning and give	constructive/positive	constructive/positive verbal
regard for GESI, CCI,	verbal feedback to both	feedback to both females
ICT etc.	females and males in class.	and males in class.
	ii. Checking to see if both	ii. Checking to see if both
	the brilliant and weak	the brilliant and weak
	learners understand the	learners understand the
	lesson.	lesson.
	IESSUII.	IESSUII.

2 Concept	Concept Development	Concept Development	15 mins
<b>Development (New</b>	2.1 Ask tutors to list and	2.1 List and share the major	
learning likely to	share the major concepts	concepts in the lesson. E.g.,	
arise in lesson/s):	in the lesson. <i>E.g.,</i>		
Identification			
and discussion	LM & PCM:	LM & PCM:	
of new learning,	Laboratory configurations	Laboratory configurations	
potential	for teaching and learning.	for teaching and learning.	
barriers to			
learning for	LSI:	LSI:	
student teachers	Electronic Communication	Electronic Communication	
or students, new	(electronic communication	(electronic communication	
concepts or	act 775)	act 775)	
pedagogy being	2.1.1 Ask tutors to discuss	2.1.1 Discuss the major	
introduced in	the major concepts listed	concepts listed in 2.1 above	
the lesson,	in 2.1 above		
which need to	2.2 Ask tutors to write two	2.2 Write two (2) possible	
be explored with	(2) possible challenges/	challenges/ misconceptions	
the SL/HoD	misconceptions in teaching	in teaching the concept	
NB The guidance for	the concept above for	above for discussion.	
SL/HoD should set	discussion.	e.g., Student teachers might	
out what they need	e.g., Student teachers	not have had knowledge	
to do to introduce	might not have had	and understanding of	
and explain the	knowledge and	computer setups.	
issues/s with tutors,	understanding of		
they should take	computer setups.		
feedback to gauge	2.2 Ask tutors to identify	2.2 Identify come	
understanding and	2.3 Ask tutors to identify some appropriate teaching	2.3 Identify some appropriate teaching	
support tutor	strategies that can be used	strategies that can be used	
engagement.	to best explain the new	to best explain the new	
	concepts identified.	concepts identified.	
	E.g., Modelled Teaching: It	E.g., Modelled Teaching: It	
	is an instructional strategy	is an instructional strategy	
	that involves the tutor	that involves the tutor	
	'showing' student teachers	'showing' student teachers	
	how to do a task. The	how to do a task. The	
	teacher shows the task	teacher shows the task	
	while also breaking it down	while also breaking it down	
	into small steps. This helps	into small steps. This helps	
	student teacher to see how	student teacher to see how	
	to complete the task.	to complete the task.	
3.Planning for	Planning for teaching,	Planning for teaching,	40 mins
teaching, learning	learning and assessment	learning and assessment	
and assessment	activities	activities	
activities for the	3.1. In pairs, ask tutors to	3.1. In pairs, watch the	
lesson/s	watch the YouTube videos	YouTube videos below on	

- Reading and discussion of the teaching and learning activities
- Noting, addressing, and explaining areas where tutors may require clarification
- Noting opportunities for making explicit links to the Basic School Curriculum
- Noting opportunities for integrating: GESI responsiveness and ICT and 21<sup>st</sup> C skills
- Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning , subject specific examples should be provided for SL/HoD
- Resources: links to the existing PD Themes, for example, action research,

below on any internet enabled device available.

LSI – Electronic Communication Act. https://youtu.be/YBGWK-XCAIM

LM &PCM – Computer Laboratory Configuration <a href="https://youtu.be/3LMhibgyeg8">https://youtu.be/3LMhibgyeg8</a>

- 3.1.1 Ask tutors to discuss the content of the videos in relation to the teaching and learning activities in the course manuals.
- 3.2 Ask Tutors to note areas that require clarification and/or contribution. *E.g.*,

#### LSI

Electronic Communication Act 775

#### LM &PCM

Laboratory layouts

3.3 Ask tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 1. *E.g.*,

#### LSI

Student teachers discuss
Electronic Communications
Laws and make group
presentations for whole
class discussions

any internet enabled device available.

LSI – Electronic Communication Act. https://youtu.be/YBGWK-XCAIM

LM &PCM – Computer Laboratory Configuration <a href="https://youtu.be/3LMhibgyeg8">https://youtu.be/3LMhibgyeg8</a>

- 3.1.1 Discuss the content of the videos in relation to the teaching and learning activities in the course manuals.
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Electronic Communication Act 775

# LM &PCM

Laboratory layouts

3.3 Discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 1. *E.g.*,

#### LSI

Student teachers discuss
Electronic Communications
Laws and make group
presentations for whole
class discussions

questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability.

Tutors should be expected to have a plan for the next lesson for student teachers

#### LM &PCM

Student teachers create a wiki on "advantages and disadvantages of various computer laboratory configurations.

3.4 In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed. Eg.,

Equal representation of both gender of different ethnicity and mixed ability grouping as appropriate.

3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities. E.g.,

Presentation of individual reflective notes on analysis of the videos with the links:

#### LSI:

Student teacher discusses Electronic Communications Laws and make group presentations.

#### LM &PCM:

Student teachers create a wiki on "advantages and disadvantages of various computer laboratory configurations

#### LM &PCM

Student teachers create a wiki on "advantages and disadvantages of various computer laboratory configurations.

- 3.4. In pairs or small groups, discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.
- E g., Equal representation of both gender of different ethnicity and mixed ability grouping as appropriate.

3.5 Read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities. E.g.,

Presentation of individual reflective notes on analysis of the videos with the links:

#### LSI:

Student teacher discusses Electronic Communications Laws and make group presentations.

#### LM &PCM:

Student teachers create a wiki on "advantages and disadvantages of various computer laboratory configurations

Note	Note
Note	Note
Encourage tutors to ask	Ask student-teachers to
student-teachers to work	work in groups (in mixed
in groups (in mixed ability,	ability, and pay attention to
and pay attention to the	the composition of females
composition of females	and males during the group
and males during the	work). Student teachers
group work). Student	may use either concept
teachers may use either	maps or multimedia for the
concept maps or	presentations
multimedia for the	
presentations	
3.6 Ask tutors to list the	3.6 List the needed
needed inclusive resources	inclusive resources for the
for the teaching and	teaching and learning of the
learning of the concepts	concepts identified in both
identified in both CoE and	CoE and basic school
basic school curriculum.	curriculum.
E.g., A personal Computer,	E.g., A personal Computer,
Instructional Laboratories	Instructional Laboratories
(with multimedia	(with multimedia
equipment and	equipment and
smartboards), Videos	smartboards), Videos
amartinuarus), viueus	Siliai tudai usj, viueus
Make sure the resources	Make sure the resources are
are enough and	enough and appropriate to
appropriate to all learners	all learners (especially
(especially people with	people with SEN).
SEN).	people with stivi.
JLIV).	
3.7. Ask tutors to	3.7. Brainstorm a plan that
	-
brainstorm a plan that will	will be appropriate for the
be appropriate for the next	next lesson:
lesson:	
LSI	LSI
Legal Issues (Contract) II	Legal Issues (Contract) II
LM &PCM	LM &PCM
Laboratory configuration	Laboratory configuration
management I	management I

4.	<b>Evaluation and</b>	Evaluation and review of	Evaluation and review of	15 mins
re	view of session:	session	session	
<b>&gt;</b>	Tutors should Identifying critical friends to observe lessons and report at	4.1 Ask tutors to identify a critical friend to sit in their class during lesson and report on observation during the next PD session.	4.1 Identify a critical friend to sit in their class during lesson and report on observation during the next PD session.	
>	next session Identifying and addressing any outstanding issues relating to the lesson/s for clarification	4.2 Ask tutors to identify any outstanding issues relating to lesson one from the course manual for clarification	4.2 Identify any outstanding issues relating to lesson one from the course manual for clarification	
	3.3	4.3 Remind tutors to read lesson 11 from the PD manual and find relevant materials for the next session.	4.3 Read lesson 11 from the PD manual and find relevant materials for the next session.	

# **Tutor PD Session**

Age Levels: JHS

Year 4

# Name of Subject/s:

**1.** PC Maintenance and Laboratory Management **Topic:** Laboratory Configuration and Management III

2. Legal and Security Issues in ICTTopic: Legal issues (Contracts) IIISemester2

**Tutor PD Session for Lesson 11** 

Fo	cus: the bullet	Guidance notes on	Guidance Notes on Tutor	Time in
ро	ints provide the	Leading the session. What	Activity during the PD	session
fra	me for what is to	the SL/HoDs will have to	Session. What PD Session	
be	done in the	say during each stage of	participants (Tutors) will do	
ses	ssion. The SWL	the session	during each stage of the	
sh	ould use the		session.	
bu	llets to guide			
wh	nat they write for			
the	e SL/HoD and			
tut	tors to do and say			
du	ring each session.			
Eac	ch bullet needs to			
be	addressed and			
spo	ecific reference			
sh	ould be made to			
the	e course			
ma	anual/s.			
1 I	ntroduction to	Introduction to the lesson	Introduction to the lesson	20 mins
the	e session	1.1 Ask tutors to write any	1.1 Write any new thing	
>	Review prior	new thing they learnt in	you learnt in your last PD	
	learning	their last PD session i.e.,	session i.e., lesson 10.	
>	A critical friend	lesson 10.		
	to share findings			
	for a short	LM & PCM:	LM & PCM:	
	discussion and	Laboratory Configuration	Laboratory Configuration	
	lessons learned	and Management II	and Management II	
>	Reading and			
	discussion of the	LSI:	LSI:	
	introductory	Legal issues (Electronic	Legal issues (Electronic	
	sections of the	Communications) II	Communications) II	
	lesson up to and			
	including	1.2 Invite the tutors who	1.2 As a critical friend who	
	learning	observed Lesson 10 to	observed Lesson 10, share	
	outcomes and	share their experiences to	your experiences and the	
	indicators	the group.	impact on your facilitating	
>	Overview of		in class	
	content and			

any distinctive aspects of the lesson/s, NB The guidance for SL/HoD should identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson. SL/HoD take feedback to gauge understanding and support tutor engagement. NB SL/HoD should ask tutors to plan for their teaching as

they go through the

PD session

identification of

1.3 Ask tutors to read the introductory sections of lesson 11 up to the learning outcomes and their corresponding indicators individually and then discuss in pairs (mixed pairs where applicable).

E.g.,

#### LM & PCM

Student teachers will be introduced to laboratory setup/configuration. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

#### LSI

Student teachers will be introduced to contracts under Legal Issues. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

1.4 Ask tutors to
i. Write down one
distinctive aspect of the
lessons from the course
manual. e.g.,

#### LM & PCM

Software tools to manage computer laboratories

#### LSI

Law of Contract (act 25, 1960)

1.3 Read the introductory sections of lesson 11 up to the learning outcomes and their corresponding indicators individually and then discuss in pairs (mixed pairs where applicable).

# E.g., **LM & PCM**

Student teachers will be introduced to laboratory setup/configuration. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

#### LSI

Student teachers will be introduced to contracts under Legal Issues. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes).

#### 1.4

i. Write down one distinctive aspect of the lessons from the course manual. e.g.,

#### LM & PCM

Software tools to manage computer laboratories

#### LSI

Law of Contract (act 25, 1960)

	ii. Identify areas that need	ii. Identify areas that need	
	further clarification in the	further clarification in the	
	lesson. E.g.,	lesson. E.g.,	
	LM & PCM	LM & PCM	
	Laboratory Management	Laboratory Management	
	LSI	LSI	
	Law of Contract	Law of Contract	
As this course is	1.5 Discuss with tutors the	1.5 Discuss with your	
		•	
dealing with	development of	colleagues the	
supporting and or	components of the PTP	development of	
assessing the	and Classroom Enquiry and	components of the PTP and	
Professional	Action Research report	Classroom Enquiry and	
Teaching Portfolio	writing by the student	Action Research report	
Development	teachers. E.g.,	writing by the student	
and/or the		teachers. E.g.,	
Classroom Enquiry			
and Action	i. Reminding student	i. Reminding student	
Research Project	teachers to keep artefacts	teachers to keep artefacts	
Report writing,	they create as part of their	they create as part of their	
tutors should be	portfolios	portfolios	
provided with	ii. Guiding student teachers	ii. Guiding student teachers	
guidance on what	on how to develop	on how to develop	
to do including	interviews to gather data.	interviews to gather data.	
organisation of Post	miterviews to gather data.	Interviews to gather data.	
_			
Internship Seminar.	4.6.4.1.1.2.2.1.2.1.1.2.1.1	4 Chiantif and a life	
For each session	1.6 Ask tutors to identify	1.6 Identify some ways by	
remember this is	some ways by which	which student teachers can	
the final semester	student teachers can	integrate ICT, GESI and CCI	
before Students	integrate ICT, GESI and CCI	into their teaching and	
begin teaching	into their teaching and	learning. e.g.,	
provide prompts to	learning. e.g.,	i. Creating videos from	
help support this	i. Creating videos from	activities performed with	
transition for	activities performed with	learners,	
planning and give	learners,	ii. Encouraging the	
regard for GESI, CCI,	ii. Encouraging the	marginalised learners to	
ICT etc.	marginalised learners to	work with peers	
	work with peers	'	
2 Concept	Concept Development	Concept Development	15 mins
Development (New	2.1 Ask tutors to list and	2.1 List and share the major	
learning likely to	share the major concepts	concepts in the lesson.	
arise in lesson/s):	in the lesson.	E.g.,	
<ul><li>Identification</li></ul>		LM & PCM	
	E.g.,		
and discussion of	LM & PCM	Software tools	
new learning,	Software tools		
potential			
barriers to			

learning for students teachers or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.  Some student teachers might not have had knowledge and understanding of legal issues and its impact on ICT.  2.3 Ask tutors to identify some appropriate teaching strategies that can be used to best explain the new concepts identified.  E.g., Modelled Teaching: It is an instructional strategy that involves the tutor 'showing' student teachers how to do a task. The teacher shows the task while also breaking it down into small steps. This helps student teachers, or student teachers or student teachers how to complete the task.  3.Planning for  LSI  Law of Contract  2.1.1 Discuss the major concepts listed in 2.1 above in teaching in teaching in teaching in teaching in teaching the concept above for discussion.  LIM & PCM  Some student teachers may have very limited skill and experience using a computer  2.2 Write two (2) possible challenges/ misconceptions in teaching in teaching the concept above for discussion.  2.2 Write two (2) possible challenges/ misconceptions in teaching the concept abo		T	T	1
or students, new concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD NB The guidance for SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.  LSI Some student teachers may have very limited skill and experience using a computer  LSI Some student teachers may have very limited skill and experience using a computer  LSI Some student teachers might not have had knowledge and understanding of legal issues and its impact on ICT.  2.3 Ask tutors to identify some appropriate teaching strategies that can be used to best explain the new concepts identified. E.g., Modelled Teaching: It is an instructional strategy that involves the tutor 'showing' student teachers how to do a task. The teacher shows the task while also breaking it down into small steps. This helps student teaching, Planning for teach	learning for	LSI	LSI	
concepts or pedagogy being introduced in the lesson, which need to be explored with the SL/HoD the SL/HoD should set out what they need to do to introduce and explain the issues/s with tutors, they should take feedback to gauge understanding and support tutor engagement.  LSI  Some student teachers might not have had knowledge and understanding of legal issues and its impact on ICT.  2.3 Ask tutors to discuss the major concepts listed in 2.1 above in the 2.2 Write two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  2.2 Write two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  2.2 Write two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  3. Planning for  2. 1.1 Ask tutors to discuss the major concepts listed in 2.1 above in 2.1 above in 2.1 above in 2.2 Write two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  3. Planning for  2. 2. Write two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  3. Planning for Planning for teaching, the concept above for discussion.  3. Planning for Planning for teaching, proceedings in teaching the concept above for discussion.  4. Support two (2) possible challenges/ misconceptions in teaching in teaching the concept above for discussion.  4. Support two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  4. Support two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  5. Support two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  5. Support two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  5. Support two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  5. Support two (2) possible challenges/ misconceptions in teaching the concept above for discussion.  5. Support two (2) possible challenges/ misconcepti	student teachers	Law of Contract	Law of Contract	
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lesson/s ask tutors to watch the watch the YouTube videos	lesson/s		watch the YouTube videos	
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- Reading and discussion of the teaching and learning activities
- Noting, addressing, and explaining areas where tutors may require clarification
- Noting
   opportunities
   for making
   explicit links to
   the Basic School
   Curriculum
- Noting opportunities for integrating: GESI responsiveness and ICT and 21<sup>st</sup> C skills
- Reading, discussion, and identification of continuous assessment opportunities in the lesson. Each lesson should include at least two opportunities to use continuous assessment to support student teacher learning , subject specific examples should be provided for SL/HoD
- Resources: links to the existing PD Themes, for example, action

any internet enabled device available.

LSI – Electronic Communication Act. https://youtu.be/YBGWK-XCAIM

LM &PCM – Computer Laboratory Configuration https://youtu.be/3LMhibg yeg8

- 3.1.1 Ask tutors to discuss the content of the videos in relation to the teaching and learning activities in the course manuals.
- 3.2 Ask Tutors to note areas that require clarification and/or contribution.

E.g.,

LSI

Law of Contract

#### LM &PCM

Software tools to manage computer laboratory

3.3. Ask tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 1. *E.g.*,

#### LSI

Student teacher discusses law of contract and make group presentations for whole class discussions

below on any internet enabled device available.

LSI – Electronic Communication Act. https://youtu.be/YBGWK-XCAIM

LM &PCM – Computer Laboratory Configuration <a href="https://youtu.be/3LMhibgyeg8">https://youtu.be/3LMhibgyeg8</a>

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#### LSI

Student teacher discusses law of contract and make group presentations for whole class discussions

research, questioning and to other external reference material: literature, on web, Utube, physical resources, power point; how they should be used. Consideration needs to be given to local availability.

Tutors should be expected to have a plan for the next lesson for student teachers

#### LM &PCM

Student teachers create a wiki on "advantages and disadvantages of various computer laboratory software.

3.4. In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.

E g., Teaching and learning resources are devoid of gender biases.

3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities. E.g.,

#### LSI:

Student teacher discusses law of contract and make group presentations.

#### LM &PCM:

Student teachers create a wiki on "advantages and disadvantages of various computer laboratory softwares

#### Note

Encourage tutors to ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work). Remind

#### LM &PCM

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#### Note

Ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of females and males during the group work). Remind student teachers to use either

	outstanding	relating to lesson one from		
	addressing any	any outstanding issues	issues relating to lesson one	
>	Identifying and	4.2 Ask tutors to identify	4.2 Identify any outstanding	
	next session	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
	and report at	during the next PD session.	PD session.	
	observe lessons	report on observation	observation during the next	
	Identifying critical friends to	class during lesson and	to sit in their class during lesson and report on	
	Tutors should	4.1 Ask tutors to identify a critical friend to sit in their	4.1 Identify a critical friend	
	view of session:	session	session	
	Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
<u> </u>		management III	management III	4= :
		Laboratory configuration	Laboratory configuration	
		LM &PCM	LM &PCM	
		privacy) IV	privacy) IV	
		Legal issues (Anti-spam &	Legal issues (Anti-spam &	
		LSI	LSI	
		brainstorm a plan that will be appropriate for the next lesson:	will be appropriate for the next lesson:	
		3.7. Ask tutors to	3.7. Brainstorm a plan that	
		Make sure the resources are enough and appropriate to all learners (especially people with SEN).	Make sure the resources are enough and appropriate to all learners (especially people with SEN).	
		(with multimedia equipment and smartboards), Videos	(with multimedia equipment and smartboards), Videos	
		E.g., A personal Computer, Instructional Laboratories	E.g., A personal Computer, Instructional Laboratories	
		basic school curriculum.	curriculum.	
		identified in both CoE and	CoE and basic school	
		learning of the concepts	concepts identified in both	
		needed inclusive resources for the teaching and	inclusive resources for the teaching and learning of the	
		3.6 Ask tutors to list the	3.6 List the needed	
		presentations		
		multimedia for the	presentations	
		either concept maps, or	multimedia for the	
		student teachers to use	concept maps, or	

issues relating to the lesson/s for clarification	the course manual for clarification	from the course manual for clarification
	4.3 Remind tutors to read lesson 12 from the PD manual and find relevant materials for the next session.	4.3 Read lesson 12 from the PD manual and find relevant materials for the next session.

# **Tutor PD Session**

Age Levels: JHS Name of Subjects:

1. Laboratory Management and PC maintenance (LM & PCM)

Topic: Laboratory Configuration and Management III

2. Legal and Security Issues in ICT (LSI)

Topic: Legal issues (Anti-spam & privacy) IV

Year 4

Semester 2
Tutor PD Session for Lesson 12 in the Course Manual

Focus: the bullet		Guidance notes on	Guidance Notes on Tutor	Time in
points provide the		Leading the session. What	Activity during the PD	session
frame for what is to		the SL/HoDs will have to	Session. What PD Session	
be done in the		say during each stage of	participants (Tutors) will do	
ses	sion. The SWL	the session	during each stage of the	
sho	ould use the		session.	
bu	llets to guide			
wh	at they write for			
the	SL/HoD and			
tut	ors to do and say			
du	ring each session.			
Eac	ch bullet needs to			
be	addressed and			
spe	ecific reference			
sho	ould be made to			
the course				
manual/s.				
1 Introduction to		Introduction to the lesson	Introduction to the lesson	20 mins
the session		1.1 Ask tutors to review	1.1 Review and reflect on	
	Review prior	and reflect on the previous	the previous PD Session	
	learning	PD Session (Lesson 11) and	(Lesson 11) and how	
	Reading and	how valuable it was on	valuable it was on lessons	
	discussion of the	lessons taught. i.e.,	taught. i.e.,	
	introductory	LSI	LSI	
	sections of the	Law of contract.	Law of contract.	
	lesson up to and			
	including	LM & PCM	LM & PCM	
	learning	knowledge of computer	knowledge of computer	
	outcomes and	laboratory management	laboratory management	
	indicators	software	software	
	Overview of			
	content and	1.2 Invite the critical friend	1.2 As a critical friend who	
	identification of	who observed Lesson 11 to	observed Lesson 11, share	
	any distinctive	share their experiences	your experiences and the	
	aspects of the	and the impacts when	impact on your facilitating	
	lesson/s,	facilitating in class.	in class	

NB The guidance for SL/HoD should identify, address and *provide* explanations for any areas where tutors might require clarification on an aspect of the lesson. NB SL/HoD should ask tutors to plan for their teaching as they go through the PD session

1.3 Ask tutors to read the introduction, lesson description and the purpose of lesson 12 in the course manual and indicate how they are related to student teachers' relevant previous knowledge

E.g., **LSI** 

In this lesson, Students will be exposed to Anti-Spam and privacy under Legal issues. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes.

# LM & PCM

This lesson is to expose student teachers to Health and safety when working with computers

# **Distinctive Aspects**

1.4. Ask tutors to be in pairs and i. Identify the distinctive aspects of the lesson. e.g.,

#### LSI

Anti-Spam Laws Privacy Vs. Civil Liberties

#### LM & PCM

Health Safety

ii. Identify areas that need further clarification in the lesson.E.g., 1.3 Read the introduction, lesson description and the purpose of lesson 12 in the course manual and indicate how they are related to student teachers' relevant previous knowledge *E.g.*,

# LSI

In this lesson, Students will be exposed to Anti-Spam and privacy under Legal issues. (National Teachers' Standard: 1a, 1b, 3b, 3c, 3e, 3d, 3n/NTECF: Pillar crosscutting issues; Core skills, Professional values and attitudes.

#### LM & PCM

This lesson is to expose student teachers to Health and safety when working with computers

# **Distinctive Aspects**

1.4. Pair with a colleague andi. Identify the distinctive aspects of the lesson. e.g.,

#### LSI

Anti-Spam Laws Privacy Vs. Civil Liberties

#### LM & PCM

Health Safety

ii. Identify areas that need further clarification in the lesson.E.g.,

	LSI	LSI
	The differences between	The differences between
	Privacy and Civil Liberties	Privacy and Civil Liberties
	Threat Actors and Exploits	Threat Actors and Exploits
	LM & PCM	LM & PCM
	Health and safety issues	Health and safety issues
	when working with	when working with
	computers	computers
	NB: Remind tutors to plan	NB: Plan for your teaching
	for their teaching as they	as you go through the PD
	go through the PD session.	session. E.g., using YouTube
	Using YouTube video to aid	video to aid the lesson.
	the lesson.	viaco to dia tile lessoii.
As this course is	1.5 Take a lead role and	1.5 Discuss together the
dealing with	discuss with tutors the	development of
supporting and/or	development of	components of the PTP and
assessing the	components of the PTP	Action Research report
Professional	•	•
	and Classroom Enquiry and	writing by the student
Teaching Portfolio	Action Research report	teachers.
Development	writing by the student	E.g.,
and/or the	teachers.	a. Reflecting with the
Classroom Enquiry	E.g.,	student teachers their
and Action Research	a. Reflecting with the	experiences from the
Project Report	student teachers their	school on issues on GESI
writing, tutors	experiences from the	and the use of ICT tools and
should be provided	school on issues on GESI	how these influence their
with guidance on	and the use of ICT tools	values of teaching and
what to do	and how these influence	learning.
including	their values of teaching	
organisation of Post	and learning.	
Internship Seminar.		
	b. Guiding the student	b. Guiding the student
	teacher on how to collect	teacher on how to collect
	data on learners during	data on learners during
	lesson delivery	lesson delivery
	Defeate CTC Very Three	Defeate CTC Veet Three
	Refer to STS Year Three	Refer to STS Year Three
	School Placement	School Placement
	Handbook.	Handbook.
	Table 8.2.7.2 pg. 93, 115.	Table 8.2.7.2 pg. 93, 115.
For each session	1.6 Ask tutors to identify	1.6 Identify some ways by
remember this is	some ways by which	which student teachers can
the final semester	student teachers can	integrate ICT, GESI and CCI
before Students	integrate ICT, GESI and CCI	into their teaching and
start teaching		learning.

provide prompts to	into their teaching and	e.g.,	
help support this	learning.	a. Recording students	
transition for	e.g.,	readings,	
planning and give	a. Recording students	b. Giving equal	
regard for GESI, CCI,	readings,	opportunities and	
ICT etc	b. Giving equal	treatments to all learners	
	opportunities and	including the marginalised.	
	treatments to all learners	and the same of th	
	including the marginalised.		
2 Concept	Concept Development	Concept Development	15 mins
Development (New	2.1 Ask tutors to identify	2.1 Identify the concepts in	
learning likely to	the concepts in lesson 12	lesson 12 from the course	
arise in lesson/s):	from the course manuals	manuals for discussion. I.e.,	
> Identification	for discussion. I.e.,	,	
and discussion of		LSI	
new learning,	Legal issues (Anti-spam &	Legal issues (Anti-spam &	
potential	privacy) IV	privacy) IV	
barriers to			
learning for	LM & PCM	LM & PCM	
student teachers	Laboratory Configuration	Laboratory Configuration	
or students, new	and Management III	and Management III	
concepts or	2.2 Ask tutors to write a	2.2 Write a possible barrier	
pedagogy being	possible barrier in learning	in learning the concepts	
introduced in	the concepts (Access	(Access Control	
the lesson,	Control Fundamentals and	Fundamentals and Building/	
which need to	Building/ Upgrading a	Upgrading a computer)	
be explored with	computer) above for	above for discussion.	
the SL/HoD	discussion.	E.g.,	
NB The guidance for	E.g.,	LSI	
SL/HoD should set	LSI	Some student teachers	
out what they need	Some student teachers	might not have had	
to do to introduce	might not have had	knowledge and	
and explain the	knowledge and	understanding of Anti-Spam	
issues/s with tutors	understanding of Anti-	and privacy under Legal	
	Spam and privacy under	Issues and its impact on ICT	
	Legal Issues and its impact		
	on ICT		
	LM & PCM	LM & PCM	
	Student teachers may have	Student teachers may have	
	had little time to Configure	had little time to Configure	
	and Manage the ICT	and Manage the ICT	
	Laboratory	Laboratory	
	2.3 Ask tutors to identify	2.3 Identify appropriate	
	appropriate teaching	teaching strategies that can	
	1	0 : :::::::::::::::::::::::::::::::::::	
	strategies that can best	3.5.5	

	avalata the resurrence	hast symlain the second
	explain the new concepts	best explain the new
	identified.	concepts identified.
	E.g., I Do, We Do, You Do	E.g., I Do, We Do, You Do
	<b>method</b> is a scaffolding	method is a scaffolding
	strategy that provides	strategy that provides
	gradual release of	gradual release of
	responsibility from the	responsibility from the
	teacher to the student.	teacher to the student.
3.Planning for	Planning for teaching,	Planning for teaching,
teaching, learning	learning and assessment	learning and assessment
and assessment	activities	activities
activities for the	3.1. Ask tutors to watch	3.1. Watch the YouTube
lesson/s	the YouTube videos with	videos with the links below
<ul><li>Reading and</li></ul>	the links below.	The second second
discussion of the	LSI – Anti-Spam Laws	<b>LSI</b> – Anti-Spam Laws
teaching and	Lo. And Spain Laws	Loi And Spain Laws
learning	https://youtu.be/kM66p3o	https://youtu.be/kM66p3o
activities	wl5w	wl5w
	WISW	WISW
Noting,	INA C DCNA . Upodeb and	LDA C DCDA . Lloolth and
addressing, and	LM &PCM – Health and	LM &PCM – Health and
explaining areas	safety	safety
where tutors	when working with	when working with
may require	computers	computers
clarification	https://youtu.be/T8qGO7X	https://youtu.be/T8qGO7X
Noting	<u>Q0Uw</u>	Q0Uw
opportunities for		
making <i>explicit</i>	3.1.1 Ask Tutors to read	3.1.1 Read through the
links to the Basic	through the teaching and	teaching and learning
School	learning activities outlined	activities outlined in lesson
Curriculum	in lesson 12 from the	12 from the courses
Noting	courses manuals and	manuals and relate it to the
opportunities for	relate it to the video	video watched for group
integrating: GESI	watched for group	discussion.
responsiveness	discussion.	
and ICT and 21st		
C skills	3.2 Ask Tutors to note	3.2 Note areas that require
Reading,	areas that require	clarification and/or
discussion, and	clarification and/or	contribution.
identification of	contribution.	E.g.,
continuous	E.g.,	LSI
assessment	LSI	Anti-Spam Laws Privacy
opportunities in	Anti-Spam Laws Privacy	Civil liberties
the lesson. Each	Civil liberties	LM &PCM
lesson should	LM &PCM	Health
include at least	Health safety	safety
	Treatti safety	Saicty
two		

- opportunities to use continuous assessment to support student teacher learning
- > Resources:
- o links to the existing PD Themes, for example, action research, questioning and to other external reference material: literature, on web, Youtube, physical resources, power point; how they should be used. Consideration needs to be given to local availability
- guidance on any power point presentations, TLM or other resources which need to be developed to support learning
- Tutors should be expected to have a plan for the next lesson for student teachers

3.3. Ask tutors to discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 3.

E.g.,

#### LSI

Student teachers explain these concepts Anti-Spam Laws Privacy, Civil liberties

#### LM &PCM

Student teachers individually make reflective notes on "risks exposed to when repairing computers and their mitigation measure

- 3.4. In pairs or small groups, ask tutors to discuss how GESI issues related to the teaching and learning activities of the lesson would be addressed.
- E g., Paying attention to all learners, especially girls and students with Special
- Educational needs, ensuring their progress, NTS 3f: 1a.
- 3.5 Ask tutors to read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities. E.g.,

3.3. Discuss how the different activities would be carried out in both CoE and the Basic School Curriculum (BSC) to achieve the LOs and the LIs of the course manual for lesson 3.

E.g.,

#### LSI

Student teachers explain these concepts Anti-Spam Laws Privacy, Civil liberties

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Student teachers individually make reflective notes on "risks exposed to when repairing computers and their mitigation measure

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- E g., Paying attention to all learners, especially girls and students with Special
- Educational needs, ensuring their progress, NTS 3f: 1a.
- 3.5 Read and discuss the assessment activities in the course manuals and identify areas in the lesson that can be used for assessment especially on NTEAP related activities. E.g.,

Presentation of individual reflective notes on analysis of the videos with the links:

**LSI** – Anti-Spam Laws <u>https://youtu.be/kM66p3o</u> wl5w

LM &PCM – Health and safety when working with computers https://youtu.be/T8qGO7X Q0Uw

#### Note

Encourage tutors to ask student-teachers to work in groups (in mixed ability, and pay attention to the composition of cultural diversity during the group work).

3.6 Ask tutors to list the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards) as well as Videos

Make sure the resources are enough and appropriate to all learners (especially people with SEN).

3.7 Ask tutors to brainstorm a plan that will be appropriate for the next lesson:

Presentation of individual reflective notes on analysis of the videos with the links:

LSI – Anti-Spam Laws https://youtu.be/kM66p3o wl5w

LM &PCM – Health and safety when working with computers <a href="https://youtu.be/T8qGO7X">https://youtu.be/T8qGO7X</a> <a href="Q0Uw">Q0Uw</a>

3.6 List the needed inclusive resources for the teaching and learning of the concepts identified in both CoE and basic school curriculum.

E.g., A personal Computer, Instructional Laboratories (with multimedia equipment and smartboards) as well as Videos

Make sure the resources are enough and appropriate to all learners (especially people with SEN).

3.7 Brainstorm a plan that will be appropriate for the next lesson:

	LSI Legal issues (Anti-spam & privacy) IV	LSI Legal issues (Anti-spam & privacy) IV	
	LM &PCM	LM &PCM	
	Laboratory Configuration	Laboratory Configuration	
	and Management III	and Management III	
4. Evaluation and	Evaluation and review of	Evaluation and review of	15 mins
review of session:	session	session	
Identifying and	4.1 Ask tutors to identify	4.1 Identify any outstanding	
addressing any	any outstanding issues	issues relating to lesson 12	
outstanding issues	relating to lesson 12 and	from the course manual for	
relating to the	any other lesson from the	clarification	
lesson/s for	course manual for		
clarification	clarification		

Appendix 1. Course Assessment Components, detail in the Revised NTEAP Toolkit (Sept. 21)

COMPONENT	SUBJECT PROJECT	SUBJECT PORTFOLIO
COMM CITELLY	1 per course per semester,	1 per course per semester, individual or
	individual or collaborative	collaborative student teacher work.
	student teacher work.	conductive student teacher work.
WHAT IS IT?	The Subject project is an	The Subject Portfolio is the deliberate
	assignment designed to	collection of student teachers' work that
	enable student teachers to	has been selected and organized for a
	demonstrate achieving one	particular subject to show student teacher's
	or more of the CLOs,	learning and progress to achieving the
	progress towards achieving	CLOs.
	identified NTS,	
	development of knowledge	
	and understanding of: the	
	Basic School Curriculum,	
	GESI responsiveness, using	
	ICT and 21stC skills	
CONSTITUENT	Introduction: a clear	Either 3 items of work produced during
S	statement of aim and	the semester or 2 items of work and
	purpose	a mid-semester assessment
	<b>Methodology</b> : what the	The items of work to be selected by
	student teacher has done	student teachers, with tutor support,
	and why to achieve the aim	during the semester as best examples of
	and purpose of the project	their progress. For each item they select,
	Substantive or main	Student teacher's need to reflect on:
	section:	progress against identified NTS; achieving
	Presentation of any	CLOs; increased knowledge and
	artifacts, experiments,	understanding of the Basic School
	TLMs created for the	Curriculum, GESI responsiveness,
	project; presentation,	integration of ICT and how they could have
	analysis, and interpretation	approached developing the item
	of what has been done,	differently to achieve a better outcome
	learned, or found out in	The mid-semester assessment : case study,
	relation to focus of the	reflective note, quiz etc.
	project.	renestive note, quiz etci
	<b>Conclusion:</b> Statement of	
	the key outcomes of the	
	project; reflection on what	
	the student teacher has	
	learnt	
WEIGHT	Overall weighting of	Overall weighting of project = 30%
	project = 30%	Weighting of individual parts of portfolio
	Weighting of individual	out of 100
	parts of project out of 100	· Each item of work - 30
	· Introduction – 10	· Mid semester assessment - 30 - if
	<ul> <li>Methodology – 20</li> </ul>	applicable

	<ul> <li>Substantive section</li> <li>40</li> <li>Conclusion – 30</li> </ul>	<ul> <li>Presentation and organisation of portfolio - 10</li> </ul>
EXAM	End of semester Exam, weight 40%. To assess: achievement of one or	
	more of the CLOs, progress towards achieving identified NTS,	
	development of knowledge and understanding of the Basic School	
	Curriculum, ability to use GESI responsive approaches and to integrate	
	ICT and 21st C skills in teaching and learning	

# **Examples of course assessment components**Subject portfolio examples of items of work

#### Literacy:

- o Reading log of children's literature
- o Review of different types of writing and how to teach them
- o Book summaries/reports
- o Report on different purposes for and types of reading or writing
- o Vocabulary achievement
- o Schemes of work

#### Mathematics:

- o Samples of problem solving with written explanations of how the problems were solved and how this can be taught
- o Charts and graphs with written explanations of how and why they were created and how this can be taught
- o Computer analyses conducted as well as use of software to teach mathematics and how effective they are
- o Use indigenous knowledge in mathematics teaching.
- o Schemes of work

#### Science

- o Lab reports,
- o Research reports
- o Charts, graphs created
- o Designs, TLMs, posters, worksheets
- o Integrating indigenous knowledge into science teaching
- o Schemes of work

#### Subject project examples

o *Pedagogic Studies.* What are the qualities you need to develop to be a good teacher? Reflect on your personal experiences, values, and background, the NTS and the expectations of, and vision for, the B.Ed.

# **ACKNOWLEDGEMENTS**

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